


N. Y.

CATALOGUE
PRATT INSTITUTE
1893-94



BROOKLYN, N. Y.



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PRATT INSTITUTE
FRONT VIEW FROM RYERSON STREET

CATALOGUE

PRATT INSTITUTE

1893-94



BROOKLYN, N. Y.

CALENDAR, 1893=94

DAY CLASSES

First term September 25 — December 22
Second term January 2 — March 23
Third term April 2 — June 22

EVENING CLASSES

First term September 25 — December 20
Second term January 2 — March 23

HOLIDAYS

Election Day.
Thanksgiving Day and the following day.
Washington's Birthday.
Good Friday.
Memorial Day.

ENTRANCE EXAMINATIONS

HIGH SCHOOL

Friday and Saturday, June 23 and 24; also Monday and Tuesday, Sept. 18 and 19, at 9 a.m.

DEPARTMENT OF INDUSTRIAL AND FINE ARTS

Day classes, Regular Art, Normal Art, Applied Design, Thursday, Sept. 21, at 9.30 a.m. Architectural and Mechanical Drawing, Friday, June 16, at 9.30 a.m., and Wednesday, Sept. 20, at 9.30 a.m.

DEPARTMENT OF DOMESTIC SCIENCE

Normal Course, Friday and Saturday, Sept. 22 and 23.

DEPARTMENT OF SCIENCE AND TECHNOLOGY

Algebra, Friday, Sept. 22, at 7.30 p.m. Electrical construction, Wednesday, Sept. 20, at 7.30 p.m.

DEPARTMENT OF COMMERCE

Phonography and typewriting, Wednesday, Sept. 20, at 2 p.m., for day classes, and Friday, Sept. 22, at 7.30 p.m., for evening classes. Phonography and typewriting, Tuesday, Jan. 2, 1894, at 7.30 p.m., for day and evening classes, and April 2, 1894, at 2 p.m., for day classes. Bookkeeping, Friday, Sept. 22, at 7.30 p.m., and Jan. 2, 1894, at 7.30 p.m.

DEPARTMENT OF KINDERGARTENS

Monday and Tuesday, Sept. 25 and 26, at 10 a.m. and 3 p.m.

DEPARTMENT OF LIBRARIES

Library Training and Cataloguing, Saturday, Sept. 16, and Saturday, Sept. 30.

BOARD OF TRUSTEES

CHARLES M. PRATT, President

GEORGE D. PRATT

FREDERIC B. PRATT, Secretary and Treasurer

ASSOCIATE COUNCIL

FRANK L. BABBOTT

REV. CHARLES H. HALL

WILLIAM J. COOMBS

REV. JOHN HUMPHSTONE

CHARLES O. GATES

ROBERT J. KIMBALL

JOHN GIBB

HAYDEN W. WHEELER

WILLIAM A. WHITE

FACULTY

FREDERIC B. PRATT, CHAIRMAN

NORMAN P. HEFFLEY, SECRETARY

WILLIAM A. McANDREW

WALTER S. PERRY

HARRIET S. SACKETT

EMMA O. CONRO

CHARLES R. RICHARDS

HANNAH D. MOWRY

MARGARET HEALY

INSTRUCTORS AND ASSISTANTS

HIGH SCHOOL

WILLIAM A. McANDREW	<i>Principal</i>
CHARLES M. ALLEN	<i>Instructor in Physics and Chemistry</i>
ADRIAN M. YARRINGTON	<i>Instructor in History and English</i>
MELVILLE A. MARSH	<i>Instructor in Mathematics</i>
WILLIAM J. McNEIL	<i>Instructor in Natural Science</i>
GEORGE D. BARTLETT	<i>Instructor in Latin and Mathematics</i>
HANNAH D. MOWRY	<i>Instructor in French</i>
WILLIAM SKARSTROM	<i>Instructor in Physical Culture</i>
JESSIE A. LINES	<i>Instructor in Physical Culture</i>
CHARLES W. EATON	<i>Instructor in Mechanics</i>
WILLIAM E. DRAKE	<i>Instructor in Woodworking</i>
WILLIAM C. STIMPSON	<i>Instructor in Molding and Forging</i>
GEORGE A. WHITE	<i>Instructor in Machine Work</i>
J. FREDERICK HOPKINS	<i>Instructor in Mechanical Drawing</i>
HENDRIK VAN INGEN	<i>Instructor in Freehand and Instrumental Drawing</i>
EMMA R. BRILL	<i>Instructor in Freehand Drawing</i>
HORATIA B. CUNNINGHAM	<i>Instructor in Wood-Carving</i>
ELLEN L. RICHARDS	<i>Instructor in Dressmaking</i>
JESSIE H. DITMARS	<i>Instructor in Dressmaking</i>
S. ELLA HUNTINGTON	<i>Instructor in Millinery</i>
JENNIE F. BRETT	<i>Instructor in Sewing</i>
GLENTWORTH R. BUTLER, M.D.	<i>Instructor in Hygiene and Home Nursing</i>
ALICE D. GILLETTE	<i>Instructor in Cookery</i>
EMMA A. WINSHIP	<i>Secretary to Department</i>

DEPARTMENT OF INDUSTRIAL AND FINE ARTS

WALTER S. PERRY	<i>Director</i>
	<i>Instructor in History of Art</i>
S. HERBERT ADAMS	<i>Instructor in Clay-Modeling, Life Drawing</i>
IDA C. HASKELL	<i>Instructor in Antique, Color, Head from Life</i>
KATHERINE E. SHATTUCK	<i>Instructor in Drawing, Sketching, Normal Methods</i>
MARY ALLIS HURLBUT	<i>Instructor in Drawing, Sketching, Color</i>
ETHELYN K. FENNER,	<i>Instructor in Light and Shade Drawing, Sketching, Color</i>
DORA M. NORTON	<i>Instructor in Light and Shade Drawing</i>

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J. FREDERICK HOPKINS,	<i>Instructor in Mechanical Drawing, Instrumental Perspective</i>
C. FRANK EDMISTER	<i>Instructor in Architectural Drawing</i>
VINCENT C. GRIFFITH	<i>Instructor in History of Architecture and Design</i>
GEORGE A. D. TEW	<i>Instructor in Technical and Applied Design</i>
HORATIA B. CUNNINGHAM	<i>Instructor in Wood-Carving</i>
MARY E. STOCKING	<i>Instructor in Art-Needlework</i>
HENDRIK VAN INGEN	<i>Assistant in Architectural Drawing</i>
MORRELL SMITH	<i>Assistant in Architectural Drawing</i>
WILLIAM CRAFTS	<i>Assistant in Mechanical Drawing</i>
CHARLES A. MEAD	<i>Assistant in Mechanical Drawing</i>
EMMA R. BRILL	<i>Assistant in Freehand Drawing</i>
HARRIETTE BOWDOIN	<i>Assistant in Freehand Drawing</i>
HENRY C. LEHMANN	<i>Assistant in Freehand Drawing</i>
MATTIE E. GOSS	<i>Assistant in Art-Needlework</i>
MARTHA S. BARRIE	<i>Children's Class</i>
HARRIET M. COX	<i>Secretary to Department</i>
CLARA L. FAIRFIELD	<i>Secretary to Department</i>

DEPARTMENT OF DOMESTIC ART

HARRIET S. SACKETT	<i>Director</i>
HELEN M. BURGESS	<i>Instructor in Dressmaking</i>
JESSIE H. DITMARS	<i>Instructor in Dressmaking</i>
EMILY M. CHAPMAN	<i>Instructor in Dressmaking</i>
ADDIE LOUISE MEAD	<i>Instructor in Dressmaking</i>
ELIZABETH MCJUNKIN	<i>Instructor in Dressmaking</i>
ELLEN L. RICHARDS	<i>Instructor in Dressmaking</i>
MINNIE OLIVER	<i>Instructor in Millinery</i>
ELLA F. CROMPTON	<i>Instructor in Millinery</i>
S. ELLA HUNTINGTON	<i>Instructor in Millinery</i>
EUNICE R. CAMPBELL	<i>Instructor in Sewing</i>
CLARA TRUMBULL	<i>Instructor in Sewing</i>
JENNIE F. BRETT	<i>Instructor in Sewing</i>
MINNIE F. HUTCHINSON	<i>Instructor in Sewing</i>
SOPHIE W. HAMILTON	<i>Assistant in Dressmaking</i>
ANNA M. BRETT	<i>Assistant in Dressmaking</i>
ELNA HEIDENHEIM	<i>Assistant in Dressmaking</i>
MARY L. SARGENT	<i>Assistant in Dressmaking</i>
MARY B. SANFORD	<i>Assistant in Millinery</i>

INSTRUCTORS AND ASSISTANTS

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ELIZABETH R. HALL	<i>Assistant in Sewing</i>
JANET F. HUNTER	<i>Assistant in Sewing</i>
JESSIE G. WHITING	<i>Assistant in Sewing</i>
EMMA R. BRILL	<i>Instructor in Drawing</i>
MARY WIGZELL	<i>Instructor in Drawing</i>
EMILY M. BISHOP	<i>Instructor in Physical Culture</i>
ADA A. M. PRATT	<i>Secretary to Department</i>
SOPHIA E. WHITE	<i>Secretary to Department</i>

DEPARTMENT OF DOMESTIC SCIENCE

EMMA O. CONRO *Director*
Science Applied to the Household

ALICE H. BECKLER	<i>Instructor in Chemistry and Physics</i>
GLENTWORTH R. BUTLER, M.D., <i>Instructor in Physiology; Hygiene and Home Nursing; Public Hygiene.</i>	
GEORGE M. STERNBERG, M.D.	<i>Instructor in Biology, Hoagland Laboratory</i>
MENCO STERN	<i>Instructor in German</i>
ALICE D. GILLETTE	<i>Instructor in Cookery</i>
MARGARET T. HAMMOND	<i>Instructor in Cookery</i>
ISABEL D. BULLARD	<i>Instructor in Cookery and Laundry</i>
BERTHA ESTEY	<i>Superintendent of Lunch Room</i>
FANNIE U. BASSETT	<i>Secretary to Department</i>
LOUISE FOWLER	<i>Stenographer</i>

DEPARTMENT OF SCIENCE AND TECHNOLOGY

CHARLES R. RICHARDS *Director*

CHARLES W. EATON	<i>Instructor in Mechanics</i>
CHARLES M. ALLEN	<i>Instructor in Physics and Chemistry</i>
MELVILLE A. MARSH	<i>Instructor in Mathematics</i>
WILLIAM J. MCNEIL	<i>Instructor in Natural Science</i>
GEORGE D. BARTLETT	<i>Instructor in Mathematics</i>
C. HOWARD PARMLY	<i>Instructor in Electrical Construction</i>
DOUGLAS BURNETT	<i>Instructor in Physics</i>
LOUIS E. ACKERMANN	<i>Assistant in Physics and Chemistry</i>
FRANK G. ROBINSON	<i>Assistant in Chemistry</i>
RUDOLPH SELDNER	<i>Assistant in Chemistry</i>
WILLIAM E. DRAKE	<i>Instructor in Woodworking</i>
WILLIAM C. STIMPSON	<i>Instructor in Molding and Forging</i>

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GEORGE A. WHITE	<i>Instructor in Machine Work</i>
JAY B. LAMPMAN	<i>Assistant in Machine Work</i>
CHARLES H. TIEDMAN	<i>Instructor in Carpentry</i>
JOHN TODD	<i>Instructor in Plumbing</i>
GEORGE HEATH	<i>Instructor in Plumbing</i>
P. WILLIAM NELSON	<i>Instructor in Fresco Painting</i>
CHARLES CARLBERG	<i>Assistant in Fresco Painting</i>
JAMES H. KELLY	<i>Instructor in House and Sign Painting</i>
EDWIN W. FOSTER	<i>Secretary to Department</i>

DEPARTMENT OF KINDERGARTENS

HANNAH D. MOWRY	<i>Associate Director</i>
ALICE E. FITTS, <i>Instructor in Froebel Psychology, Gifts, Occupations, Games, Form Study, and Color</i>	
ALICE H. BECKLER	<i>Instructor in Botany and Zoölogy</i>
JOHN J. DAWSON	<i>Instructor in Music</i>
KATHERINE E. SHATTUCK	<i>Instructor in Drawing</i>
EMILY M. BISHOP	<i>Instructor in Physical Culture</i>
GLENTWORTH R. BUTLER, M.D.	<i>Instructor in Physiology</i>

DEPARTMENT OF COMMERCE

NORMAN P. HEFFLEY	<i>Director</i>
LULU NASE ESMOND	<i>Instructor in Phonography</i>
ARABEL GILLESPIE	<i>Instructor in Phonography</i>
CAROLINE WYLIE	<i>Instructor in Phonography</i>
ALICE FAIRFIELD	<i>Instructor in Phonography</i>
THOMAS P. HEFFLEY	<i>Instructor in Typewriting</i>
EMMA B. LUDLOW	<i>Instructor in Typewriting</i>
MORRIS L. MINER	<i>Instructor in Bookkeeping, Arithmetic, and Penmanship</i>
ANNA L. CLARKSON	<i>Assistant in Bookkeeping</i>
ERASTUS PALMER	<i>Instructor in English</i>
WILLIAM P. LEWIS	<i>Instructor in Spanish</i>

DEPARTMENT OF LIBRARIES

MARGARET HEALY	<i>Director</i>
MARY W. PLUMMER	<i>Librarian</i>
MARY L. AVERY	<i>Instructor in Library School</i>

INSTRUCTORS AND ASSISTANTS

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AGNES E. LITTLE	<i>Assistant in Library</i>
MARY C. MOSMAN	<i>Assistant in Library</i>
SOPHIA L. BACON	<i>Assistant in Library</i>
L. ATALANTA RAMSDELL	<i>Assistant in Library</i>
SUSIE S. HAWKINS	<i>Assistant in Library</i>
ANNIE MACKENZIE	<i>Assistant in Library</i>
JULIA C. STURGES	<i>Assistant in Library</i>
ELIZABETH B. FAUCON	<i>Assistant in Library</i>
HELEN J. AITKEN	<i>Assistant in Library</i>
HETTIE D. ESLER	<i>Assistant in Library</i>
EDITH M. POMEROY	<i>Assistant in Library</i>
FLORENCE E. VAN VLIET	<i>Assistant in Astral Branch Library</i>
MABEL M. SMITH	<i>Assistant in Astral Branch Library</i>
HELEN I. STUART	<i>Stenographer</i>

DEPARTMENT OF MUSEUMS

J. FREDERICK HOPKINS	<i>Associate Director</i>
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THE THRIFT

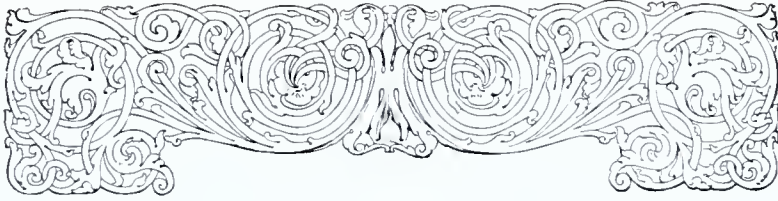
J. HOLLIS GIBSON	<i>Cashier and Assistant Manager</i>
JOHN CARR MADDOCK	<i>Teller and Bookkeeper</i>

GENERAL OFFICE

NORMAN P. HEFFLEY	<i>Assistant Secretary</i>
M. ADELAIDE BIRD	<i>Registrar</i>
ALFRED C. BEDFORD	<i>Auditor</i>
LILY NORTON	<i>Bookkeeper</i>
S. LOUISE GIROD	<i>Stenographer</i>
HENRY R. DARBEY	<i>Buyer</i>
LOUISE LIPPITT	<i>Assistant Bookkeeper</i>
WILLIAM SPALDING	<i>Assistant Bookkeeper</i>
NELLIE C. CARROLL	<i>Assistant Stenographer</i>
JOSEPH FOSTER	<i>Engineer</i>



NEW BUILDING
FRONT VIEW FROM RYERSON STREET



PRATT INSTITUTE



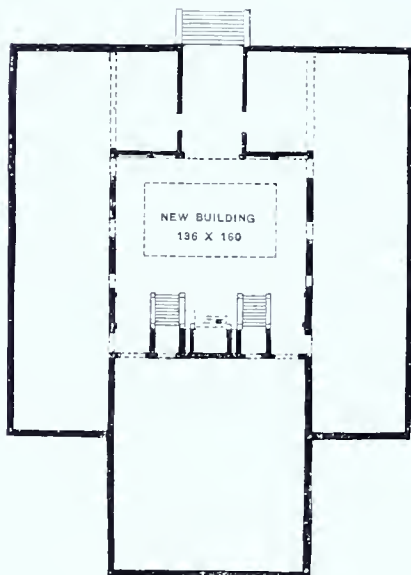
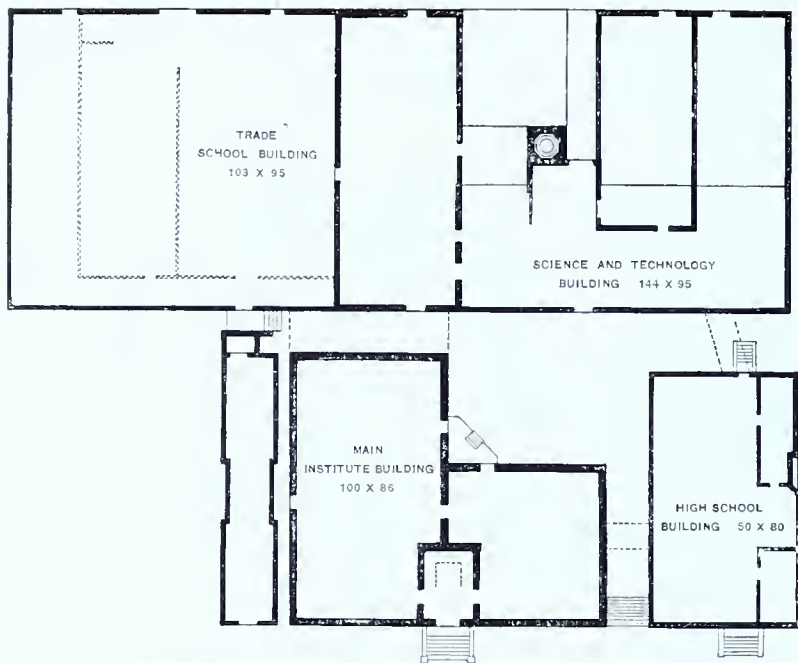
AIM AND SCOPE.—Pratt Institute was established after many years of investigation on the part of its founder, Mr. Charles Pratt, of Brooklyn. Its object is to promote manual and industrial education, as well as cultivation in literature, science, and art ; to inculcate habits of industry and thrift ; and to foster all that makes for right living and good citizenship.

It is now generally recognized that manual training is an important and necessary adjunct to the education of the schools, and that mind and eye and hand must together be trained in order to secure symmetrical development. Manual training aims at the broadest, most liberal education. While developing and strengthening the physical powers, it also renders more active and acute the intellectual faculties, thus enabling the pupil to acquire with greater readiness and thoroughness, and to use more advantageously, the academic education which here goes hand in hand with the manual.

The need of manual training as a developing power is not greater than that of industrial education,—such education and training in the application of knowledge as will give a more complete mastery of life, whether in domestic, business, or professional pursuits.

Accordingly, the Institute seeks to provide facilities by which persons wishing to engage in educational, artistic, scientific, domestic, commercial, mechanical, or allied pursuits, may lay the foundation of a thorough knowledge, theoretical and practical, or may perfect themselves in those occupations in which they are already engaged.

The Institute is based upon an appreciation of the dignity as well as the value of intelligent handicraft and skilled manual labor. It endeavors to give opportunities for symmetrical and harmonious education ; to establish a system of instruction whereby habits of thrift may be inculcated ; to develop those qualities which produce a spirit of self-reliance ; and to teach that personal character is of greater consequence than material



GROUND-PLAN OF PRATT INSTITUTE BUILDINGS

productions. Its purpose is to aid those who are willing to aid themselves. Its classes, workshops, library, reading-room, and museum are for this purpose; and while tuition fees are required, yet it is the endeavor to make possible, by some means consistent with self-helpfulness and self-respect, the admission of every worthy applicant.

In accordance with these principles, the work of the Institute is prosecuted upon four several lines, with four distinct aims in view:

1. Educational, pure and simple: the purpose being the harmonious development of the faculties; as in the work of the High School.

2. Normal: the ultimate aim being the preparation of the student to become a teacher. Normal training is at present given in the Department of Industrial and Fine Arts; the Department of Domestic Science, and the Department of Kindergartens.

3. Technical: or special training to secure practical skill in the various branches of industrial and domestic art, the handicrafts, the applied sciences, and the mechanical trades.

4. Supplementary and special: intended for the benefit of those who wish to supplement the training of school or college by attention to special subjects conducing to more intelligent direction of domestic, financial, social, or philanthropical interests; such training as is given in the kindergarten, domestic science, library, and other classes.

The Institute is provided with a liberal endowment, which enables it to make merely nominal charges for tuition, and, at the same time, to secure the best talent and facilities for the accomplishment of its aim and purpose. All receipts from tuition and other sources are to be used for the maintenance and advancement of its work.

Establishment.—Land for the present buildings was purchased in 1884; contracts were made in the early part of 1885; the work of excavating was begun about July 1 of the same year, and the construction was continued through 1886–87. May 19, 1887, the charter was granted, with power to confer degrees, and, in October of that year, the first classes were admitted.

Equipment.—The buildings of the Institute are situated on Ryerson Street, between De Kalb and Willoughby Avenues, and extend through to Grand Avenue. The Main Building, having an entrance on Ryerson Street, is 100 feet x 86 feet, and six stories high. The High School Building, completed January 1, 1892, directly south of the Main Building, is 50 feet x 80 feet, and three stories high. It is occupied by the High School, and, in addition to class rooms, contains a gymnasium for the department. The Science and Technology Building, together with

the extension to the Main Building, is 144 feet x 95 feet—the former being four and the latter five stories high. The one-story Trade School Building is 103 feet x 95 feet.

The buildings are of brick, with trimmings of stone and terra-cotta, and are heated by steam and lighted by electricity. The Main Building is provided with a passenger elevator, which runs at all hours when classes are in session.

New Building.—Plans have been prepared for the construction of another building during the present year. It will be situated on the west side of Ryerson Street, opposite the Main Building, and is designed to contain the Library, the Museum, the Art Department, and a large Auditorium.

Playgrounds.—The extensive playgrounds of the Institute, which are utilized for tennis, baseball, and other games, are situated on Ryerson Street, opposite the Main Building, and also in the rear of the Science and Technology Building, on Grand Avenue. The grounds on Ryerson Street are in one piece, which contains 92,000 square feet, while those in the rear of the buildings are in several pieces, aggregating 100,000 square feet.

Organization.—The Institute is under the control of a board of trustees, with a secretary as executive officer.

The work of the Institute is divided into departments; the heads of the various departments constituting the faculty, each member of which is directly responsible for the work of his department.

Weekly meetings of the faculty are held, at which matters pertaining to the general interests of the Institute are discussed, and recommendations to the trustees are made. Department meetings are also held for the consideration of those subjects especially pertaining to the individual departments.

Plan of Instruction.—In most of the departments, morning, afternoon, and evening classes are held. In all these the character of the work is similar, though in the evening classes and in those day classes not meeting every day, courses are of necessity abridged.

Both sexes are admitted on equal footing to the privileges of the Institute.

Lectures.—An important feature of the Institute is its system of lecture courses. It is intended that these shall bear directly upon the work of the Institute in all its phases, thus including practical instruction upon those matters which pertain to right modes of living, the problems of political and social life, domestic economy, sanitary science,

literary culture, ethics, etc. While many of these courses may be given to pupils as a part of the regular work of the Institute, yet many others will be so arranged as to meet the wants of those not otherwise connected with the Institute, who wish the opportunity to obtain systematic instruction upon subjects of interest and importance.

Diplomas.—The *Diploma* of the Institute is given to those students who have successfully completed the course of study in the High School.

Owing to the unforeseen growth of the various lines of work for which the Institute was organized, the Trustees have decided to relinquish the work of the Department of Music, as now carried on at No. 244 Vanderbilt Avenue. The Tonic Sol-fa System, however, has our undiminished confidence, and we greatly regret that our present conditions do not warrant the continuance of the Department.

... general use of vocal music among the people. It was established in recognition of the great value of music as a means of recreation, stimulus, and development to the physical, mental, and moral nature.

The Society is composed of certificated sol-faists, and each member is thus an intelligent reader of music. The best class of music is studied, and concerts are given from time to time at nominal rates of admission. Meetings are held weekly in the Assembly Hall of the Institute, under the direction of an experienced instructor. All candidates are required before entering the Society to pass a preliminary examination. Preparations for this may be made in a special class at the Institute, if necessary.

The system of notation used is the Tonic Sol-fa, which has been found so successful in England.

Physical Culture and Athletics.—The Institute offers facilities for physical culture both to young men and to young women. The work for the former is under the auspices of the Department of Domestic Art, and is described elsewhere in this catalogue. Gymnasium training for boys is given under the auspices of the Pratt Institute Athletic Association.

The Gymnasium occupies the ground floor of the High School Building, and is supplied with a full outfit of apparatus, with locker-rooms, shower-baths, etc. The classes are arranged in sections of convenient size, accommodated to the time at the disposal of the students, between 3 and 6 p.m. daily except Saturdays. The work comprises calisthenic drill with dumb-bells, clubs, wands, and bar-bells ; squad work with horizontal bar, chest-weights, parallel bars, ladders, vaulting-horse, high jump, etc., together with instruction to special classes in boxing, fencing, running, and other exercises.

Apparatus for accurate measurements of the body are a part of the equipment, and complete records are made at the beginning and close of the year's work, showing the progress made in bodily development.

The Athletic Association is open to all members of Pratt Institute ; and besides the executive staff having charge of the general business of the Association and the spring and fall field-days, there are committees on tennis, baseball, football, archery, and bicycling, which arrange for tournaments and games from time to time throughout the season. The Trustees of the Institute have set aside, for the use of the Association, an athletic field with running-track, baseball grounds, and a large number of well-kept tennis-courts. The boys' gymnasium instructor gives lessons in out-door athletics in pleasant weather.

The membership dues are one dollar per year. Membership tickets may be procured of the Cashier of the Institute at the General Office.

Wednesday Afternoon Meetings.—During 1892-93, in Assembly Hall, on the first Wednesday of each month, from November to May inclusive, there was held a series of free meetings, at which subjects pertinent to right conduct and living were discussed by men and women, authorized by their own eminence to speak with effect and force.

Among the speakers were Miss Grace Dodge, Mrs. Alice Wellington Rollins, Mrs. Kate Upson Clark, Dr. Lyman Abbott, Mr. Percival Chubb, Mrs. Julia Ward Howe, Mrs. Clara Sidney Potter Davidge, Dr. Lewis G. Jaynes, Mrs. L. G. Runkle, and many others of note.

The subjects discussed were

Self-Supporting Women	Nov. 2.
Careers	Dec. 7.

Nature and Requirements of Success	Jan. 4.
Economy of Power	Feb. 1.
Social Ethics	Mar. 1.
Home and Society	Apr. 5.
Self-made Men and Women	May 3.

These meetings were attended by the graduates, students, and patrons of the Institute, and the audiences showed from one meeting to another a gratifying increase in numbers. The ultimate object was not alone to promote a clearer understanding of modern life and society, but also to awaken and sustain a real interest in philanthropy, and gradually to lead the listeners to organize for active work among the city's less fortunate classes. The possibility of success in such work is assured, for the reason that Pratt Institute each year trains hundreds of men and women in the useful and fine arts, who, not always needing their training for self-support, have time to impart their knowledge to others.

The Graduate Association.—An organization of the women graduates of Pratt Institute was formed in October, 1892. The following officers were elected to serve for one year : President, Miss Ida Ruston ; Vice-President, Miss Sophie W. Hamilton ; Secretary and Treasurer, Mrs. Lulu N. Esmond ; Corresponding Secretary, Miss Alice Fairfield.

The Association is composed of members, associate members, and honorary members. Its dues are fifty cents a year, from which honorary members are exempt. Its chief objects are : " To engage in such social and practical work as shall advance the interests of the Association as a whole, and redound to its growth and renown ; to awaken and sustain an interest in the industrial work of all women ; to study the questions affecting the industrial standing of women ; and to endeavor by organization to advance the industrial position of women."

The first associated work of the members has been the preparation of an exhibit of their handiwork to be sent to the Woman's Building, Columbian Exposition, there to serve as a composite object-lesson on the industrial fields in which the graduates of Pratt Institute have entered.

Publications.—*The Record* is published annually, in commemoration of Founder's Day. It is a comprehensive review of the work of the year, and contains the President's Address and the report of the Secretary, as well as the reports of the directors of the eight departments. It is mailed to the patrons of the Institute, to colleges, to schools, and to prominent educators in the United States and in Europe.

The Pratt Institute Monthly is issued on the fifteenth day of each month, and is for sale at the General Office at eight cents a copy, or fifty

cents a year. The first number was issued on Founder's Day, October 2, 1892.

The aim of the Monthly is to promote the fellowship and unity of the Institute, the students, and the instructors, and to awaken and sustain the interest of the public in manual and industrial training, in science, literature, art, and thrift. Its contents include : Contributed and Selected Articles ; Editorials ; News from the Departments ; Notes from the Educational Field ; and a column devoted to the interests of students and teachers.

Special circulars bearing upon the work of the departments are issued during the school year. They are distributed freely to the general public.



HIGH SCHOOL

A THREE YEARS' COURSE FOR BOTH SEXES

WILLIAM A. McANDREW, Principal



THE High School of PRATT INSTITUTE aims to fit boys and girls, as far as is possible in three years, for an industrious and useful life. In the words of its founder, Charles Pratt, "The idea of the school is not to teach any trade, but to educate the pupils to work patiently, systematically, and constantly in the use of hand, eye, and brain. We think such as finish the course will, by the combined training of all their powers, be able to decide for themselves what life-work they are best calculated to succeed in ; and if they wish to fit themselves for any of our colleges or scientific schools, their time will have been well spent in preparation therefor."

THE COURSE OF STUDY framed by the Trustees to carry out the above object selects from the great number of known studies those which seem best fitted to cultivate the different sides of character. It is desired by teaching a few things, to give the power of knowing many things. By means of instruction in the useful arts and the necessary branches of knowledge, we hope to make minds more acute and truth more clear. By regular and intelligent exercise in the gymnasium, we hope to preserve sound bodies and to promote grace and self-control. By constructive work in wood, metal, and cloth, graded through increasing difficulties, we hope to gain manual skill, accurate judgment, and patient perseverance. By individual experiment and investigation in the natural sciences, we hope to quicken and strengthen the powers of observation and reason. By constant insistence upon promptness, neatness, truthfulness, obedience to lawful authority, and courtesy toward fellows and teachers, we hope to secure the growth of correct habits and conduct. By the study of history and literature, we hope to make familiar the high ideals of life, and by the influence of art and music, to awaken and cultivate the love of beauty necessary to a developed man. It is the desire of this school to work toward these high aims, by instruction as thorough, intelligent, and attractive as carefully selected teachers can give.

PREPARATION FOR HIGHER SCHOOLS AND FOR COLLEGES.—While the chief aim of the High School is not to fit students for college, those who desire to avail themselves of the instruction here given, and at the same time to prepare themselves for carrying on their studies in higher institutions, are assisted in so doing. Many students prepare in the High School for work in the other special departments of the Institute, and many for advanced scientific schools and colleges elsewhere.

Subject to the approval of the Principal, pupils intending to enter college may substitute for studies in the regular course such work as is required for admission to the college they desire to enter. Arrangements have been made to prepare candidates for the following : Amherst College, scientific course ; Columbia College, School of Mines ; Cornell University, scientific courses ; Harvard University, Lawrence Scientific School ; Massachusetts Institute of Technology ; Michigan University, scientific courses ; Smith College, scientific course ; Stevens Institute of Technology ; Vassar College ; Wellesley College, scientific course ; Yale University, Sheffield Scientific School. Information regarding preparation for other colleges will be furnished on application.

THE EQUIPMENT to carry out the designs of the course is thoroughly complete, as permitted by the organization of the High School as an integral part of Pratt Institute. A brick building with three stories and basement, south of and adjoining the Main Building on Ryerson Street, is used exclusively by the school. The academic classes recite here ; and in the basement are the gymnasium, lockers, and bath-rooms. The experimental and theoretical work of the natural sciences and the manual work for boys are carried on in the laboratories and workshops of the Department of Science and Technology ; the manual work for girls, in the Departments of Domestic Art and of Domestic Science ; and the drawing and wood-carving, in the Department of Industrial and Fine Arts.

REQUIREMENTS FOR ADMISSION.—Brooklyn and vicinity are so well provided with schools that the High School of Pratt Institute is able, without lessening its usefulness, to refuse admission to all except those whose preparation has been unquestionably sufficient to enable them to carry on the work successfully. Generally, a pupil who has graduated from a public grammar school, or who has pursued an equivalent course of study elsewhere, will pass the entrance examinations successfully. Occasionally, pupils with less preparation have secured admission ; but so many have found it impossible to do the work that a thorough grammar-school course is recommended to all. All applicants are required

to fill out and return application blanks furnished by the Institute previous to the examinations, and are expected to present, at the time of examination, a certificate of good moral character from the principal of the school last attended. Entrance examinations will be held in the High School building on Friday and Saturday, June 23 and 24, beginning at 9 o'clock each day, and on Monday and Tuesday, September 18 and 19, at the same place and hour. Pupils may take part of the examinations in June, reserving the rest for September; and pupils failing in any examination in June, may be reexamined in September. Following are the subjects required:

ENTRANCE EXAMINATIONS

(*Prefatory Note.*—The neatness and legibility of the writing, as well as the correctness of the spelling and of the sentential structure of each paper, are considered in the estimate of the standing.)

FIRST DAY.

- 9:00 a.m. Arithmetic (two hours). The work is that usually completed in a public grammar school. The candidate must understand the fundamental principles thoroughly, and show facility in the numerical solution of problems. Stress is laid upon neatness of arrangement, including well-formed figures and letters. The preparation should include percentage, trade discount, interest, profit and loss, commission, true and bank discount, insurance, partial payments, compound interest, problems involving purchase and sale of bonds and stocks, denominate numbers, ratio and proportion, involution and evolution; explanation of principles and rules.
- 11:00 a.m. Geography (one hour and a half). This work includes political and commercial geography, with some knowledge of the chief American railroads; map-drawing, exports, forms of government, etc.
- 1:30 p.m. Grammar (one hour and a half). The examination is designed to test the candidate's ability to apply the principles of grammar to the interpretation of obscure or involved passages, and to the correction of incorrect speech. Penmanship and composition are included in the examination.
- 3:00 p.m. Spelling and definition (half an hour).

SECOND DAY.

- 9:00 a.m. Algebra (two hours). The preparation should be equivalent to that given by the public grammar schools of Brooklyn, which devote forty weeks of daily recitation to the subject. The subjects covered are factoring, greatest common divisor, least common multiple, and simple equations through one unknown quantity.
- 11:00 a.m. United States History (one hour and a half). The candidate is expected to be familiar with the names of great men of American history, and to possess clear ideas upon the services which they rendered their country. The location of famous places by means of quickly-sketched maps is required.

COURSE OF INSTRUCTION

FIRST YEAR.

LANGUAGE	Composition. English classics.
HISTORY	Ancient.
MATHEMATICS	Algebra. Plane geometry.
SCIENCE	Physical geography. Physiology. Botany.
DRAWING	Freehand and instrumental working drawings ; free-hand, perspective, and cast drawing ; design, developments and intersections.
MANUAL WORK	<i>For boys</i> Bench work in wood ; wood-turning ; pattern-making.
	<i>For girls</i> Sewing, hygiene, and home nursing. Wood-carving.
MUSIC	Chorus singing.
PHYSICAL CULTURE	

SECOND YEAR.

LANGUAGE	Rhetorical analysis. English classics.
HISTORY	Mediaeval and modern.
MATHEMATICS	Plane and solid geometry. Trigonometry. Surveying.
SCIENCE	Physics, with laboratory practice.
DRAWING	Historic ornament, clay-modeling, sketching, and design. Mechanical and architectural drawing. Pen-and-ink sketching.
MANUAL WORK	<i>For boys</i> Foundry molding ; tinsmithing ; forging.
	<i>For girls</i> Dressmaking. Wood-carving.
MUSIC	Chorus singing.
PHYSICAL CULTURE	

THIRD YEAR.

LANGUAGE	English literature ; essays ; French or German.
HISTORY	Modern.
CIVICS	Political economy.
MATHEMATICS	Principles of construction.
SCIENCE	Chemistry, with laboratory practice. Metallurgy.
DRAWING	<i>For boys</i> Advanced freehand and mechanical drawing ;
	<i>For girls</i> Cast drawing, pen-and-ink sketching, water color, and design.
MANUAL WORK	<i>For boys</i> Machine shop,—vise work ; machine tool work ; construction.
	<i>For girls</i> Cooking. Dressmaking. Millinery.
MUSIC	Chorus singing.
PHYSICAL CULTURE	

Extra classes in Latin, modern languages, and review of mathematics, are open only to candidates for colleges where these studies are required for admission.

ADVANCED PUPILS will be admitted to any year at any time on passing an examination on the usual subjects required for entrance, and also

upon the work which has been done by the classes to which they desire admission. (See page 22.)

SPECIAL STUDENTS desiring to pursue only particular subjects, are referred to the other departments of Pratt Institute, inasmuch as the High School is open to those only who pursue all the studies of a prescribed course.

THE DIPLOMA of the Institute is given to each pupil who completes all the required work of the course, and gives evidence of good character throughout his connection with the school.

THE HOURS OF SESSION of the school are from 9 a.m. to 3 p.m., with an intermission of thirty minutes for luncheon. The day is divided into six working periods, of which three are devoted to recitations and laboratory practice, two to tool-work, and one to drawing. Thirty minutes each morning are given to devotional exercises, music, news, and general business, by the whole school.

STUDY AT HOME is necessary for all the pupils. Every day three lessons are given out, each requiring between forty-five and sixty minutes of study. The school is desirous of keeping the amount of outside study within the limits of three hours a day, and earnestly directs the attention of parents to the need of regularity in this respect.

THE EXPENSES of the school for tuition are, for the first year \$30, payable \$10 each term; for the second year \$45, payable \$15 each term; for the third year \$60, payable \$20 each term. In addition to tuition fees, students are required to provide their own books, drawing instruments and materials, clothing for use in shops, and in the case of girls, most of the materials used in the work in sewing, millinery, and dress-making. All tools and materials required for work in the shops are furnished by the school. The Institute provides accommodation for the clothing of pupils, and takes due precaution for the security of such articles, but it cannot be responsible for their safety.

Work of the School in Detail

I. LANGUAGE AND LITERATURE

The aim of the work in English is to give the power of ready expression, both oral and written, in correct and natural language; to cultivate the ability to appreciate an English classic; to implant some idea of the form and literature of our race; and to bring the mind under the stimulating and purifying influence of good literature.

FIRST YEAR.

The work begins with a brief review of the grammatical structure of the sentence, and includes a study of the derivation and use of words ; instruction and practice in the use of dictionaries and reference books ; lessons in library use, and suggestions for reading ; and careful practice in punctuation, paraphrasing, reproduction, expansion, and the making and use of outlines.

This study is accompanied by regular practice in writing as frequently as three times a week, chiefly in class, under the teacher's eye and subject to his criticism.

The reading of this year consists of Hawthorne's *Tanglewood Tales*, Bryant's translation of Homer, Macaulay's *Lays of Ancient Rome*, Shakespeare's *Julius Cæsar*, and other classics treating of the periods covered by the pupils in their study of history during the year. The works are read primarily for the author's thought, and secondarily for illustration of the mechanical essentials of English, the study of which, as shown above, is carried on throughout the course.

SECOND YEAR.

The principles learned in the language study of the first year are constantly applied in the more formal composition work of the second. The study of clearness, force, beauty, rhetorical figures, metre, etc., is systematic and extensive. Parallel with the progress of his work in history the pupil reads those English classics of Shakespeare, George Eliot, and Dickens, which are concerned with the periods from the Renaissance to the French Revolution. Essays are written (chiefly at home) twice a week, upon historical and biographical themes.

THIRD YEAR.

In this year an effort is made by means of special exercises to secure quick and accurate thought and speech. Debates and extemporaneous speaking are introduced both as class work and before the entire school at opening exercises. The writing consists of eighty themes in imitation, description, narration, argument, and memory. The reading, as before, is designed to supplement as far as possible the history studied this year, and includes Chaucer's prologue to the *Canterbury Tales*, one of Shakespeare's historical plays, and Fiske's *Critical Period of United States History*.

FRENCH OR GERMAN.—In the third year the pupils are given the option of French or German. The study is pursued daily, and though

the classes are conducted from the first in the language studied, a reading rather than a speaking knowledge is sought.

II. HISTORY AND CIVICS

FIRST YEAR :—*Ancient and Mediæval History.*

The first year's work in history opens with the study of the ancient Oriental and European nations. The causes which led to the emigration of different tribes and the consequent peopling of Europe are carefully developed, after which the gradual advancement in civilization and forms of government is traced.

Great pains are taken to give the pupil a sympathetic insight into the thought and social conditions of each age. In every case possible he is not merely told about the fact, but is given the evidence of the fact itself. In the consideration of a particular people, specimens of their poetry, drama, and oratory are read by the class ; their creeds, laws, and political organizations are studied ; and the narrative of decisive events is obtained largely from their own chronicles. Free use is also made of photographs of the architecture and artistic remains of each time. In this way the pupil obtains much of his historical data at first hand, and forms his own conception of the character and life of a people.

SECOND YEAR :—*General History.*

The work of this year begins with the period of the Renaissance. Great importance is attached to the study of this mighty intellectual and moral awakening, and special endeavor is made clearly to trace the uprising and development at that time of those forces which have given rise to modern civilization.

Here, as before, an effort is made to bring the pupil into direct contact with the facts, and thereby to stimulate individual thought and judgment. The ample library of the Institute furnishes unusual facilities for such investigation, and a large collection of plates and photographs is also accessible to the pupils.

The aim is, not merely to task the memory of the student by requiring him to retain a mass of facts and dates which have little relative significance in his mind, but, through a careful consideration of the conditions and dominant forces of each epoch, to make clear the causes of historical phenomena, and, finally, to reach some comprehension of great principles underlying the development of the race.

A large share of time during the year is given to English History, on

account of its intimate relation to the history of our own country. Such facts as had a bearing upon the colonization or government of the United States, and the motives which led to the struggle for independence on the part of the colonists are discussed, and the two forms of government are compared.

THIRD YEAR :—*Modern History.*

The third year is concerned with the study of later modern history, chiefly with that of the last century ; and the great social and economic movements which have characterized that period are studied more minutely than were those of previous years.

The advance of constitutionalism and the importance of the individual ; the effect of modern inventions and the consequent rise of industrialism ; and the progress of education, receive particular attention. This period of history is dealt with at considerable length, in the belief that such extended study affords the best possible basis for an intelligent conception of the forces active in the society of to-day.

Both in literature and history the aid of drawing, as a factor in making clear and real the position of places and the forms of classic architecture, is recognized. Rapid blackboard sketching of maps, buildings, and the faces of great men, is insisted upon.

CIVICS.

The study of economics accompanies the work in history during the year. The principles of the science are presented in an elementary but scientific manner, it being the purpose of the teacher to familiarize the student with the names and natures of the chief problems which confront the intelligent voter. The political measures of the hour are studied, the presidential messages and important bills of Congress analyzed, and a constant effort made to insure in those who have attended the school a greater fitness for American citizenship than they would otherwise have obtained.

CURRENT EVENTS.

Ten minutes of each day are given to the announcement of the important happenings of the world. A corps of twelve pupil editors, serving a week at a time, take from the morning papers the gist of the news and bulletin it upon blackboards arranged for the purpose in the assembly hall, illustrating when desirable with drawings and maps. These bulletins are read and explained before the entire school, and historical or scientific references are elucidated. The bulletin boards are :

Brooklyn and New York.
 General United States news.
 United States, political.
 Canada, Mexico, and the rest of America.
 England.
 Germany.

France.
 Other European States.
 The rest of the world.
 Industry and Invention.
 Athletics.
 Words mispronounced.

III. MATHEMATICS

(Algebra, Geometry, Trigonometry, Principles of Construction.)

The mathematical work of the first year begins with the study of algebraic fractions, continuing for two terms, through involution, evolution, radicals, quadratic equations, ratio, proportion, arithmetical and geometrical progression, the binomial theorem, and the use of logarithms.

The constant endeavor in the work in mathematics is to strengthen and develop the student's power of logical reasoning. To this end much emphasis is given throughout the course to the solution of original problems.

More time is devoted to geometry than to any other mathematical study, both because of its importance in connection with other work of the department, and because of its disciplinary value. Careful attention is given to the treatment of the principles of plane geometry — the straight line, polygons, the circle, theory of limits, proportional lines, similar polygons, regular polygons, and circles; also of solid geometry — lines and planes in space, dihedral and polyhedral angles, polyhedrons, cylinders, cones, and spheres.

Trigonometry follows geometry. The functions of acute angles, the right triangle, goniometry, and the oblique triangle, are the main subjects discussed. Throughout the course the application of trigonometric principles in the operations of surveying is studied. Individual practice with a surveying instrument is obtained by each member of the class in running boundary lines, in measuring inaccessible distances, in calculating areas by triangulation, and in leveling.

In the third year the elements of mechanism are studied, and the transmission of motion by rolling and sliding contact, by wrapping connectors and by linkwork, is considered. Simple combinations of linkwork, belting, and gearing are introduced, and the details of typical shop machines are analyzed.

The theory of the steam-engine is next studied, and the transference of energy traced from the combustion of fuel to the development of mechanical work in the engine. This instruction is supplemented by

work in the carefully-equipped steam laboratory, where the principles studied in the class-room are verified in a series of tests and calculations.

An elementary discussion of the strength of materials follows during the third term. The phenomena of tension, compression, shearing, and beam action are considered, and the appreciation of the subject further strengthened by practice in the testing-laboratory, where a large number of specimens of wood and metal are broken under various conditions of strain. The application of these principles to all constructive design is pointed out, and many specific examples are considered.

IV. SCIENCE

In all the scientific work of the school, constant effort is made to train the mind through the senses. Especial attention is given to individual experimentation. Each student handles, sees, hears, and decides for himself ; thus the senses become acute and sure in their action, and the pupil learns to depend upon himself instead of accepting blindly the conclusions of others.

Unusual facilities are offered for developing and cultivating the spirit of scientific investigation ; the laboratories for the use of the department have been planned with great care, are constructed according to the most approved methods, and are thoroughly equipped with the best appliances for individual work ; the Technical Museum affords exceptional opportunities for illustrating many features of the work in science ; and the manual work, in its various forms, is a constant illustration and application of principles learned in class-room and laboratory.

FIRST YEAR :—*Physical Geography, Physiology, Botany.*

A course in physical geography is made the introduction to the science studies. This scientific analysis of the familiar features of the earth's surface forms an admirable and most effective starting-point for the consideration of all natural phenomena. Thus the common knowledge and experience of pupils is made a foundation from which correct habits of observation and scientific modes of thought may be built. The search for the causes of the phenomena of earth and sky and sea cannot fail to interest, and is a practical method of exercising the observing faculties, of cultivating the reflecting powers, and of stirring into activity the imagination.

To develop further the spirit of observation and the apprehension of cause and effect, a series of readings is taken twice daily, during a portion of the term, with a set of meteorological instruments, comprising

thermometer, barometer, rain-gauge, hygrometer, weather-vane, and wind-gauge. The pupils are detailed in small groups to make these observations, and the results are recorded upon a chart which hangs in the classroom.

Continued use is made of the projection-lantern during the course, and a large number of slides serve to illustrate natural features bearing upon the subject.

The course in physiology is designed to give a thorough, practical knowledge of the structure and functions of the human body, the textbook work being supplemented by lectures, experiments, and simple dissections. The science of anatomy and physiology is applied to the rules of hygiene, and the treatment of accidents and emergencies carefully considered, while the action of alcohol on the structure of the body is studied scientifically and in the light of modern research. A skeleton, Yaggy's anatomical chart, and a complete set of Auzoux and Bock-Steger models are provided for the use of students, and the microscope is used in the study of the tissues and structures of the body. Each student prepares a note-book, in which accurate drawings of the different organs, full records of experiments and dissections, and notes of lectures are kept.

The course in botany is pursued during the spring term, and aims to give the student a clear idea of the nature of plant life. The physiology of the subject is considered of primary importance, and a large portion of the time is devoted to a careful study of the processes of growth. Starting with the simple cell and its contained protoplasm, the student is gradually made familiar with the varied phenomena of plant life, such as the formation of tissue, assimilation, respiration, the work of chlorophyll, the effects of heat, light, and moisture, and methods of reproduction.

Throughout the work in botany the pupil is brought face to face with the phenomena studied. In the case of minute cell and tissue structure, carefully-selected specimens are examined under powerful microscopes and drawings are made by each pupil in his note-book. Particular reference is made to the structure and growth of wood, and the effect of forests upon soil and climate.

SECOND YEAR : — *Physics*, — *Mechanics*, *Sound*, *Electricity*, *Magnetism*, *Heat*, *Light*.

The study of physics extends through the year and occupies five periods each week. This time is nearly equally divided between the

lecture-room and the laboratory. Increased time for laboratory work is provided by the frequent substitution of an additional hour of experimentation in place of home study. Both on account of the character of the laboratory work, which affords the best possible training in accurate observation, and from the close logical thinking required for a mastery of the subject, instruction in this science is of exceptional disciplinary value.

In the laboratory each student is provided with apparatus, and performs his own experiments, which are generally of a quantitative nature, leading to numerical results. Special attention is devoted to the keeping of accurate and independent notes of each experiment, and the experiments are so selected that the student generally does not know the result till he himself has determined it.

The ground covered in the laboratory study, which corresponds with the progress of the class-room work, is indicated by the following outline :

FALL TERM. Mechanics. *Laboratory work* : measurements and weighings ; mechanical powers ; friction ; hydrostatics ; specific gravity ; capillarity ; pendulum ; tension of gases.

WINTER TERM. Electricity, magnetism, and sound.—*Laboratory work* : magnetic polarity, induction, field ; electrical distribution, machines, measurements ; use of electrometers, galvanometers, batteries, Wheatstone bridge ; thermo-electricity ; fundamental laws of sound-vibrations.

SPRING TERM. Heat and light.—*Laboratory work* : thermometry ; expansion ; latent and specific heat ; artificial cold ; foci of mirrors and lenses ; photometry ; polarization ; spectra.

THIRD YEAR :—*Chemistry,—Inorganic, Qualitative Analysis ; Descriptive Metallurgy.*

The almost countless applications of chemistry in the concerns of modern life make it of vital importance that the student should understand thoroughly the fundamental principles of the science, and that he should acquire direct personal knowledge of its simpler phenomena. He should also be made familiar with the chief applications of the science in industrial processes. A full year is devoted to this study,—four periods each week being divided between the laboratory and lecture-room.

As shown in the following outline of laboratory practice, the work is chiefly qualitative :

FALL TERM.

Laboratory work.—Elementary gases, non-metals, their compounds and determination. Qualitative analysis of air and drinking-waters.

WINTER TERM.

Laboratory work.—Metaloids, compounds and determination; determination of acid radicals, and production of common acids; hydrocarbons.

SPRING TERM.

Laboratory work.—Properties of metals and their compounds, their analysis and determination.

A brief course in descriptive metallurgy is given in the last term of this year, in which the modern processes for the production of iron and steel are analyzed, and a special study made of the economic factors involved.

V. DRAWING

The drawing of the High School is threefold in character—constructive, representative, and decorative. The work is both freehand and instrumental, the two being carried forward in parallel lines throughout the entire course of three years.

Constructive Drawing.—This division includes all work relating to the *facts* of form, namely: freehand working drawings, instrumental working drawings, geometric problems, surface developments, intersection of solids, a large part of architectural drawing, and all drawing relating to machine construction.

Representative Drawing.—This division includes all work relating to the *appearance* of form, namely: freehand perspective drawing, outline and light and shade from cast, pencil and pen-and-ink sketching, and perspective drawing in color.

Decorative Drawing.—This division includes all work relating to the *decoration* of form, namely: elementary design, historic ornament, decorative design in color, and clay modeling of ornament.

FIRST YEAR.—*Freehand and Instrumental Drawing.*

At the beginning of the course the students are given practice in working freely with the pencil. While this freedom is being secured, freehand working drawings of simple objects are made, students in this way learning to read such drawings as are used in the shops. As soon as the pupils have learned to work freely, and correctly to make and interpret simple working drawings, they are taught the use of instruments and the making of drawings to scale. Freehand perspective is then introduced, and students draw the appearance of type forms. Freehand drawing from common objects is followed by outline drawing from casts; simple effects of light and shade are expressed, and the drawings are rendered as artistic as possible. Everything is done to lead the pupils

to appreciate good form. Before taking the course in lathe-work a special study is made of vase-forms, etc., and many of the designs for the objects turned upon the lathe are worked out in the drawing room. Geometric problems, surface developments, and intersection of solids complete the work in instrumental drawing for the first year.

SECOND YEAR.—*Architectural Drawing, Elements of Design, Clay-Modeling.*

During the second year lectures are given on the history of architecture and ornament, these lectures being illustrated by photographic reproductions. The pupils make studies of historic ornament in color, and in pen and ink, and also originate simple decorative designs. Clay-modeling from ornament is taken at the time when the students are engaged part of each day in the foundry. Much attention is given to architectural drawing, and students learn to make and to read plans and elevations, and to work out various details of house construction. During the last term of the second year the boys take mechanical drawing, and the girls pencil-sketching and light-and-shade drawing.

THIRD YEAR.—*Mechanical Drawing, Pen-and-Ink Sketching, Design.*

In the third year, the boys spend the greater part of their time in mechanical drawing, working out various problems involving the construction of cams, gearing, slide-valve action, and engine details. One freehand sketch is required each week. The girls devote their whole year to pencil, pen-and-ink sketching, and work in color and design. They also receive much instruction in the drawing of drapery, etc., to enable them to sketch freely and rapidly the designs for hats and gowns required in the Domestic Art division of the High School course of study.

Applications of the instruction in drawing are constantly made in all the instruction of the school. The pupils in history, literature, science, mathematics, and manual work are required to use graphic methods of illustration wherever the subject can be made clearer or more attractive by such means.

VI. MANUAL WORK

In the educational work of the High School the manual work enters upon an equal basis with the regular academic studies. Its office is not to turn the pupil aside from intellectual studies, but to reinforce them; to prepare not for any particular mechanical pursuit, but for the common activities of life. While the student's mind is stored with the facts of mathematics and science, and elevated by the teachings of literature

and history, he is receiving the discipline of care and patience at the bench, and gaining strength of judgment in shaping means to an end.

The work for boys, which is under the direction of the Department of Science and Technology, is given below.

To carry out this work, the department is equipped with a series of shops and laboratories, which are supplied with every appliance that can in any way enlarge the scope or promote the efficiency of the instruction.

FIRST YEAR :—*Bench-work, Turning, Pattern-making, Spinning.*

The first exercises of the bench-work course are designed to give practice in the use of the principal wood-working tools—the saws, plane, and chisel. At the same time the use of the measuring-tools is introduced, and the pupil is led to see the necessity of laying out his work with the greatest care in order to secure accurate results. After this, practice in joinery is taken up ; at first with simple examples, and then, as the pupil becomes more skillful, leading on to more complicated forms and more difficult constructions.

The necessity for constant care and accuracy in this practice in joinery is undoubtedly of great disciplinary value. Every hasty or careless stroke is followed by an obvious defect, which the eye at once traces to its source, and so makes of each exercise a continued lesson in cause and effect. At the end of the course the elements previously dealt with are embodied in a few constructive pieces, such as a paneled door, window-sash, and dovetailed box.

After the work at the bench, operations in wood-turning are pursued. No line of shop-work affords so great an opportunity to develop the appreciation of form in design as does wood-turning. The free outline of its projects offers constant illustration of the subtle qualities of curves, and every exercise affords an opportunity of presenting a model of good proportions and grace of form. The practice is an unequalled training in form-perception, and is directly connected with instruction in the elementary principles of design, in which several of the pieces to be turned are worked out by the pupils.

The operations of metal-spinning give a further opportunity of advancing this training. With the addition of a few very simple tools, simple and graceful forms of cups, boxes, trays, and vases are worked out in thin sheet metal.

Work in pattern-making follows the practice in turning ; the making of patterns requires operations both with the bench tools and in turning, and also involves very exacting requirements of care and forethought.

In order that the ways and methods of pattern-making may be understood, the operations of molding are illustrated at this stage, and its main principles carefully explained. Patterns are prepared for some of the pieces to be used later in the machine shop, after which more difficult examples involving core-boxes are introduced. The work closes with the making of a pipe-elbow, grooved pulley, and straight-faced pulley.

Accompanying the shop-work instruction frequent talks are given throughout the year upon the principles involved in the work, and upon the properties and natural history of wood. These include: The action of cutting tools; Distribution of lumber forests in the United States; Processes of lumbering; Physical properties of wood; Principles governing its disposition in construction; Preservation of timber; Specific properties and value of different woods. These talks are illustrated wherever possible by maps, diagrams, and specimens.

SECOND YEAR:—*Molding, Tinsmithing, Forging.*

In the beginning of the second year, with the patterns already prepared, the pupil is introduced to the foundry, and there practices the operations of molding in sand. The nature of this work is essentially different from anything that has preceded. Here the results are a large part of the time hidden from sight, and the project can be successfully carried through only by keeping each step clearly in mind and forecasting the effect of each new move. This discipline of the imagination gives to the practice in molding no mean educational value.

The methods and applications of plaster-casting in the arts are also explained at this time, and duplicates of clay and other originals are obtained by the students. This latter work is intimately connected with the practice in clay-modeling which is being had at this time.

During the course explanation is given of the construction and operation of the cupola, and of the physical properties of cast iron and other materials dealt with. The processes of casting on a large scale and the ancient and modern methods of statue-casting are described and illustrated by charts and models.

From this shop the pupils go to the tinsmithing benches, where, after soldering various forms of simple joints, they apply the principles of surface development, previously learned in the drawing room, in making various forms of pans, bowls, cups, pipe-joints, etc., in sheet tin.

At the end of this work the course in forging is entered upon. Of all the shop-work in the school course, none is more beneficial in its effect upon the character of the pupil than this practice at the forge. In other

kinds of work there is time for deliberation ; time to determine just what to do ; but here one must "strike while the iron is hot," must think quickly and act quickly.

The exercises embrace a comprehensive course in drawing, bending, and welding different forms in iron. They end with the forging and tempering of a set of steel lathe-tools, to be used in the shop-work of the following year. The course is generally finished by the construction of some simple ornamental pieces, which serve to indicate the possibilities of wrought-iron in this direction and to emphasize right principles of design.

THIRD YEAR.—*Vise-work, Machine Tool-work.*

The shop-work of the third year deals with the operations of the machinist, at first with the hand, and later with the power tools.

The bench-work course comprises chipping, surface filing, straight, angular, and round fitting ; and the making of calipers, try-squares, and inside and outside gauges, in sheet steel.

Before commencing the tool course, an explanation of the construction of the lathe and other tools is given, and the action of cutting tools is analyzed. The first portion of the course gives practice in plain and taper turning and fitting, screw cutting, etc. After this come exercises introducing various operations on the different machines, and, finally, a set of taps, twist drills, and reamers is made and finished. The course ends with the construction of some project, such as a small dynamo, motor, or steam-engine.

Practice in these, the most exacting of all mechanical operations, enforces methods of patient accuracy and does much to develop the power of persistent, careful application. In addition to this, the work with the power tools affords an insight into the principles governing the action of machines, and an acquaintance with numerous examples of mechanical device in accomplishing varied ends.

MANUAL WORK FOR GIRLS

The subjects are chosen to afford the girls of the High School a training in thought-expression and an exercise of the executive faculties similar to that obtained by the boys in wood and metal working, as well as to prepare for a more intelligent administration of the home. They comprise wood-carving, cooking, sewing, dressmaking, and millinery.

The last three branches, which are closely related to each other and also to the course in mechanical and freehand drawing pursued by these

students in the Art Department, are under the direction of the Department of Domestic Art. The students receive this instruction in the rooms of the Domestic Art Department, where they use the equipment provided for the special classes of that department. The courses of work are based upon the same lines as those pursued by the special classes, but are somewhat modified in order to increase their educational value and to bring them within the limited time allowed.

The courses in sewing, dressmaking, and millinery are arranged to make clear the fundamental principles of these arts, and to lead the students to appreciate the necessity of forethought, accuracy, and thoroughness in all good work.

FIRST YEAR :—*Sewing, Home Nursing, and Hygiene.*

The course in sewing occupies about four hours each week during the first year of the High School course. As sewing is not taught in the public schools of Brooklyn, very few of the girls who come from the grammar schools have any knowledge of the art. The pupils are therefore first taught the simplest stitches used in hand sewing. Practice is given in all important varieties of hand sewing upon small pieces of cloth, muslin, cashmere, etc., until a reasonable degree of proficiency is attained. During this time the student applies the knowledge gained in mechanical drawing to the cloth in measuring, cutting, and folding squares, oblongs, triangles, hems, square corners, mitered corners, etc. Talks are given by the teacher upon the practical application of these stitches, upon the growth of cotton and its manufacture into thread and woven material, upon emery, and upon the manufacture of the needle and the thimble. These talks are illustrated by specimens from the museum. Attention is also given to the position of the body and the care of the eyes while sewing. Considerable time is devoted to teaching mending and darning, with practice upon articles of clothing brought from home by the pupils. The management and care of several kinds of sewing-machines are next taught.

The pupils are then taught to take the proper measurements of each other, in order to learn the cutting and fitting of skirts. After they have learned to take measurements, they again apply their knowledge of mechanical drawing in draughting the different parts of the skirt, first on paper and then upon the cloth. They then proceed to make the skirts, using both machine and hand sewing. The fitting and making of simple waists or sacks is similarly taught,—one pupil fitting another. The small pieces of cloth used in the hand sewing are provided by the school ;

other materials are furnished by the pupils. It seems wise that pupils should learn to choose and purchase for themselves such materials as are most suitable for the garments to be made. To aid them in making a wise expenditure of their money, books containing samples of different kinds and qualities of cotton goods, flannels, etc., are exhibited in the class-room, and talks are given by the teacher upon the qualities suitable and most economical for the various uses.

Pupils are required to take notes at each lesson, and to record these in a book kept for the purpose. They thus learn to express themselves clearly and concisely in regard to the work, and are prepared for the written examination which comes at the close of the course, and which, together with an examination of the practical work, determines their standing.

Throughout the last term of the first year, nearly two hours each week are devoted to making freehand drawings and sketches in water color of hats and dresses, in preparation for the courses in dressmaking and millinery which are taken up in the two following years. This study, in connection with the general course in drawing pursued in the Art Department, leads the pupil to appreciate good form and proportion, and educates the taste in dress.

Following directly upon the course in physiology is one in Emergencies, Hygiene, and Home Nursing.

The course affords practical instruction in bandaging, artificial respiration, application of splints, lifting of helpless patients, preparing and applying poultices, etc. These exercises are performed by the pupils, the living model, under the personal supervision of the instructor.

SECOND YEAR.—*Dressmaking, Wood-carving.*

In the second year, three hours each week are given to dressmaking, the pupils having finished the course in sewing. The students are first taught to take the proper measurements of the figure, measuring each other. When they have sufficient knowledge of measurements they are taught to make draughts for waists and skirts of various kinds. Here again they apply their knowledge of mathematics and mechanical drawing. When the student can make correct draughts for all figures, she makes for herself a simple dress of cotton or woolen material. To assist her in a proper selection of material, the teacher shows to the class samples of dress materials, explaining their suitability for different uses. A talk upon color and its relation to dress is also

given. Much thought and care is given to aid the pupil in deciding how to make her dress so that it may be in true harmony with herself.

The course in wood-carving is designed to afford a knowledge of the handling of tools, of technical methods in wood-carving, and of the principles of design for relief ornament. Beginning with surface carving for simple objects, students advance to the decoration of frames, panels, and cabinet work, originating and completing their own designs.

THIRD YEAR.—*Millinery, Cookery, Household Science.*

Four hours each week during the first and second terms of the third year are devoted to a study of the principles of making and trimming hats and bonnets. Here again the laws of form, proportion, and color must be observed. Each hat must be shaped to fit the head and harmonize with the face of the wearer. The pupils first practice trimming upon discarded straw and felt hats which they bring from home, using colored cotton flannel, sateen and cheesecloth in place of velvet, ribbon, crêpe, etc. These materials they purchase themselves, with as much care in regard to the color as if they were to be worn. Later they study the growth and manufacture of silk, the making of felt and straw hats, and the various materials used. When the elementary principles of millinery are understood, each pupil selects materials and makes for herself a finished hat. In this she is required to embody as many of the principles already learned as possible, much thought being given to the form and coloring.

In the last term of the third year, about four hours a week are given to making a house dress from an original design by the pupil; a thorough preparation for this final project having been gained by the previous training in sewing, dressmaking, millinery, mechanical and freehand drawing, wood-carving, and elementary design.

The instruction in cookery is based upon laboratory methods, and is both theoretical and practical. The chemical, physiological, and economic consideration of foods leading to the science of nutrition, forms a parallel course with instruction and individual practice in culinary treatment. The calculation of dietaries affording a sufficiency of nutrient to meet the body's needs, as estimated by standard authorities, is one form of written work required. The practical work includes simple invalid cookery, the preparation of cereals, vegetables, and meats, soups, salads, fancy desserts, and cakes, frozen creams, a breakfast, a luncheon, and a dinner.

The instruction in Household Science includes a study of the essential principles of Home Sanitation, Household Art, and Household Economy. To this end, the situation of the house, the removal of wastes, the water supply, ventilation, heating, and lighting, the architecture, decorations, and furnishings, and the care, in detail, of every portion of the house, are carefully considered by means of lectures and recitations. The instruction is supplemented by visits to private houses and other buildings, illustrating various phases of the subject under consideration.

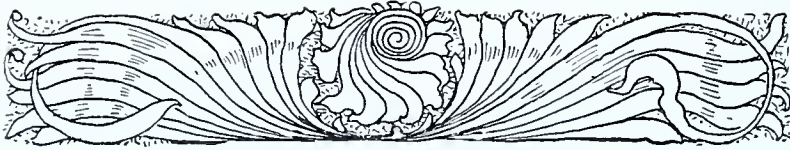
PHYSICAL CULTURE

Instruction and exercise are given in physical culture, with the aim to secure a symmetrical development of the body, increase the strength of the muscles, the circulating and respiratory powers, and to gain agility and grace. The exercises are designed to remove much of the embarrassment, nervousness, and faltering characteristic of those who have not a well-developed control of the body, as well as to train the physical judgment and courage.

The work for boys comprises exercises with dumb-bells, Indian clubs, pulley-weights, vaulting-horse, horizontal and parallel bars, and swinging rings, pole-vaulting, boxing, fencing, etc.

Throughout the three-years' course, the girls receive instruction in light gymnastics, from a competent woman teacher. The lessons, of half an hour's duration, are given three times a week in the school gymnasium. Believing that young women should have sufficient physical exercise of a right nature to preserve their strength and nervous force during their school life, the High School considers physical culture a subject as important as any in the school curriculum. The exercises are designed to teach the pupil how to sit and walk well, to breathe correctly, and to obtain perfect control of all the movements of the body, in order that she may gain health and strength, and learn to conserve her nervous force. Practice with wands, dumb-bells, clubs, and in marching, is given, as well as exercises in Swedish gymnastics and school fencing. Commodious dressing-rooms with lockers are provided for the pupils.

THE ATHLETIC ASSOCIATION, mentioned elsewhere in this catalogue, includes nearly all the pupils of the High School among its members.



DEPARTMENT OF INDUSTRIAL AND FINE ARTS

WALTER S. PERRY, Director



THE object of the Art Department is to provide thorough and systematic instruction in the industrial and fine arts. The various divisions are as follows :

REGULAR ART COURSE	{	Antique, life, anatomy, color, sketching, and composition.
NORMAL ART COURSE	{	Freehand and instrumental drawing, antique, color, design, clay-modeling, sketching, and composition.
CLAY-MODELING	{	Ornament, antique, design in the round, modeling from life.
TECHNICAL DESIGN	{	Freehand drawing, color, decoration, applied design, technical methods.
ARCHITECTURAL DRAWING . .	{	Freehand and architectural drawing, historic styles, color, mathematics, and shop work.
MECHANICAL DRAWING . . .	{	Freehand and mechanical drawing, metallurgy, mathematics, mechanism, and shop work.
WOOD-CARVING	{	Freehand and instrumental drawing, design, clay-modeling, wood-carving.
ART-NEEDLEWORK		Freehand drawing, design, color, art-needlework.

The courses of study are arranged to meet the requirements of three classes of pupils: those who give to the work five days each week; those who give three afternoons; and those who give three evenings. For full information see special headings.

The department occupies the entire fourth floor, half of the sixth, two rooms on the fifth, and one room on the third floor of the main building, comprising in all, fifteen studios and rooms especially fitted for the various classes. These rooms are supplied with a large collection of casts of ornament and the antique; various sketches by the old masters; original drawings for illustration by modern artists; a series of several hundred photographs arranged in chronological order, illustrating the historical development of architecture, painting, and sculpture; photographs illustrating landscape composition; also large numbers of plates, designs, and charts for class use. Students have access daily to the collections in the Museum, and also to the Institute Library, which

contains a valuable selection of art books and plates, and all the best current art publications.

Drawing-boards, easels, wood-carving tools, and modeling-clay are provided by the school ; but paper, drawing materials, instruments, wood for carving, etc., must be furnished by the students. With few exceptions these materials may be obtained at the General Office of the Institute. The work of the classes is under the control of the department until after the annual exhibition ; one or more specimens may then be selected from the work of each student and retained for the use of the school.

Promotions depend entirely upon individual ability and application.

The *Diploma* of the Institute will be awarded to those students of breadth of thought and training who complete, with entire satisfaction, the work of the Normal course in this department.

The *Certificate* will be awarded to those students who complete satisfactorily the course of instruction in the following :

ARCHITECTURAL DRAWING ; MECHANICAL DRAWING ; APPLIED DESIGN ; ART-NEEDLEWORK ; WOOD-CARVING.

For further information regarding the Diploma and Certificate, see page 15.

MORNING CLASSES.

The morning classes are for those who can give five days each week to study, and who wish to pursue a regular course of two years or more in any branch of work given in the prescribed courses. Before final enrollment, applicants for admission to the Regular Art and the Normal Art classes, and to the classes in Architectural Drawing, Mechanical Drawing, and Design, must pass an examination in freehand drawing. Applicants who reside at some distance from Brooklyn may submit bold free drawings in either charcoal or pencil. Those who make application for the Normal Art Course must be at least eighteen years of age. They must possess good health ; mature, thoughtful minds ; a love for teaching as a profession ; a good general education, and good technical ability. They must present a letter or satisfactory statement testifying to these facts. Applicants for the day classes in either Architectural or Mechanical Drawing must pass the additional examinations mentioned on pages 47 and 49.

All regular courses of the morning classes begin in September. The daily session is from 9 a.m. to 12:45 p.m., with an intermission of fifteen minutes at 11 o'clock. Promptness and regularity of attendance are absolutely required.

PRATT INSTITUTE

AFTERNOON CLASSES.

Afternoon classes in cast and life drawing, color, wood-carving, applied design, and art-needlework, are for students who cannot attend the morning session. The hours of instruction are from 2:30 to 5 p.m. on two and three days of every week during the school year. Classes for teachers from public and private schools meet at 3:30. Children's classes for freehand, cast drawing, and sketching meet Saturday morning from 9:30 to 11:30.

Afternoon courses of study are similar to those of the morning classes, but are necessarily abridged. Every effort, however, is made to adapt the work to the needs of the individual pupils. See Regular Art Course, Courses in Wood-carving, Art-needlework, and Applied Design.

Students wishing full courses should enter morning classes.

EVENING CLASSES.

Evening classes, planned for those who are engaged during the day, meet Monday, Wednesday, and Friday evenings of each week, for six months, from September to April. The session is from 7:30 to 9:30 p.m.

Classes in freehand and cast drawing, life drawing, architectural drawing, mechanical drawing, decorative and applied design, clay-modeling and wood-carving, pursue courses of study similar to those of the day classes; but, on account of the limited time, these courses are less comprehensive. The work in freehand drawing is carried on in several divisions. During the winter a course in one of the subjects mentioned on pages 73 to 76 may be taken in connection with either architectural or mechanical drawing. The work of every class is made as helpful as possible to students having a special end in view.

For more specific statements in regard to the various courses of study of evening classes, see pages 45 to 51.

ADDITIONAL CLASSES.

Pupils from the High School meet for instruction one hour each day, and pursue a course of study in freehand, architectural, and mechanical drawing, design, clay-modeling, and wood-carving as given in the prescribed three-years' course of study of that department. Students in the Domestic Art classes receive lessons each week in freehand drawing and color, the work enabling them to sketch drapery and various combinations of material in a free and effective manner.

LECTURES.

In addition to the course of public lectures referred to on page 14, class and department lectures are given on perspective, design, color,

composition, artistic anatomy, and the history of architecture. A special course of twenty lectures on the history of art is open to all students of the Institute. This course of lectures is very fully illustrated by lantern photographs.

COURSES OF STUDY.

The courses of study as printed, are planned for morning classes which meet five days each week. All other classes meeting for a shorter time pursue similar but abridged courses, and full information concerning them will be found in the following pages.

REGULAR ART COURSE

FIVE DAYS EACH WEEK — FOUR YEARS.

In the Regular Art Course, training is given in drawing from the antique, drawing the head and figure from life, anatomy, painting the head and figure from life, sketching, and composition.

Each student may advance as rapidly as time and ability permit ; and all students, including those from other schools, are admitted to the life classes whenever they can present satisfactory drawings from the antique. Much emphasis is placed upon work from life, and unlimited opportunity for study is given in this direction. This substitution of life drawing for continued work from the antique accords with the theory and practice of the best European schools, and students are encouraged to enter life classes as early as possible.

During the first year, three consecutive mornings each week are spent upon light-and-shade drawing ; the fourth morning is devoted to free-hand perspective, and sketching ; and the fifth, by means of lectures, drawings, etc., to the history and development of art. Students having completed the first year's course will be admitted to the life class, drawing from the head, whenever their work from the antique will justify such admission. During the second year, those students who work in the morning in charcoal from life are advised to work in the afternoon from still-life in color.

The work of the third and fourth years is a further development of that of the second year. Students drawing the figure from life in the morning, are advised to work in the afternoon in the portrait class in color.

Each week throughout the course, students are required to present sketches for general class criticism. During the first year the study is directed principally to the choice of picturesque subjects, to perspective, broad effects of light and shade, and the handling of simple mediums.

In more advanced work, sketching is considered in its relation to illustration, and composition is especially emphasized. Students of the advanced classes also meet two afternoons every week to sketch from the costumed model.

In connection with the courses of study, lectures are given on the following subjects: perspective, composition, design, color, historic ornament, artistic anatomy, and the history of painting and sculpture.

COURSE OF STUDY.

FIRST YEAR.

1. Cast drawing from ornament in outline, and light and shade.
2. Cast drawing from masks, heads, and details of human figure in outline, and light and shade.
3. Cast drawing from the antique, full-length figure.
4. Still-life drawing, freehand perspective, perspective problems, and sketching.
5. Historic ornament.
6. Principles of design and decoration illustrated in color.

SECOND YEAR.

7. Study of the antique in charcoal or clay.
8. Anatomy, sketching.
9. Drawing from life—head and costumed figure.
10. Painting in oil or water-color.

THIRD YEAR.

11. Drawing—figure from life. (Clay-modeling optional.)
12. Painting from life—head and costumed figure.
13. Sketching and composition.

FOURTH YEAR.

14. Drawing—figure from life. (Clay-modeling optional.)
15. Painting from life—head and figure.
16. Sketching and composition.

AFTERNOON CLASSES.—Classes covering a course abridged from that printed for the morning session meet three afternoons each week for instruction and practice. Students draw from casts until able to enter the life class, taking as parallel subjects freehand perspective and sketching. Each week throughout the course, students are required to present sketches for class criticism; and a sketch club for rapid sketching from the costumed figure, meeting one afternoon each week, is open to students of the advanced classes. Life drawing in charcoal and color from the head and costumed figure is carried on during the entire school year. Instruction is also given in oil or water color from still life. To

be admitted to the life or the color classes, students must satisfactorily complete all the work of the elementary classes, or present drawings covering the same. Those wishing full courses should enter morning classes.

EVENING CLASSES.—The work in freehand drawing is carried on in several divisions, as follows :

1. Drawing from ornament in outline, and light and shade.
2. Drawing from the antique.
3. Drawing the head from life.
4. Drawing the figure from life.
5. Still-life drawing, freehand perspective, pen-and-ink sketching.
6. Freehand drawing, and applied design in color.
7. Drawing and modeling from cast and from life.

Applicants should specify which division they wish to enter. Students may be admitted to a life class upon the satisfactory completion of the work of elementary classes, or by presenting satisfactory drawings.

NORMAL ART COURSE

FIVE DAYS EACH WEEK — TWO YEARS.

The Normal Art Course of two years aims to give pupils a training which shall qualify them to fill positions as teachers and supervisors of drawing in public and private schools. This class is limited to students of special ability. See page 41, "Morning Classes."

The course of study comprises the greater part of the first two-years' work of the Regular Art Course, including sketching, lectures on perspective, composition, harmony of color, historic ornament, and design, together with the subjects indicated below.

COURSE OF STUDY.

- 1 to 6. Same as Regular Art Course.
7. Applied design in color, plant forms and their adaptation to ornament.
8. Clay-modeling from ornament and antique.
9. Water-color painting from still-life.
10. Elements of architectural and mechanical drawing.
11. Instrumental perspective.
12. Normal teaching exercises.
13. History of education.
14. Wood-carving. (Optional.)

After completing the two-years' course, students may take an advanced special course and become qualified as instructors in higher grades of work.

Students may also do extra work as time permits, covering as much as possible under the second and third years of the Regular Art Course. The afternoon and evening sessions furnish opportunity for this additional practice; and students taking clay-modeling in the evening may model from life the second term, if the work of the first term meets the necessary requirements.

Exceptional opportunity is furnished to young men who wish to qualify themselves to fill positions as instructors of drawing in manual training schools, etc. The work may include four divisions: (1) free-hand drawing, clay-modeling, design, etc.; (2) architectural drawing; (3) mechanical drawing; (4) manual training.

CLAY-MODELING

Arrangements have been effected by which the work in clay-modeling is made a special feature of the department. The wide extent to which clay-modeling can be directly used in the fine and the applied arts has justified a particular effort in this direction.

The work of the classes in clay-modeling is in four divisions:

1. The first is intended to supplement freehand drawing from the antique and from life, and to provide training for those who wish to make a specialty of advanced work in clay. Students who wish to enter at once upon work from the figure are required to present satisfactory drawings or modeled studies of the head or figure.

2. The second is for students of the Normal Art Course who model from casts of ornament, from the antique, and from life.

3. The course of the third division is planned to meet the requirements of pupils in the architectural and the wood-carving classes, and also those of the High School. Students model from casts, plants, photographs, etc., and study the principles of decorative design as applied to work in stone, wood, and metal.

4. The fourth division is for pupils of the evening classes. This course is designed to give an artistic training especially adapted to the needs of artisans and designers in silver, brass, iron, stone, wood, and the numerous other branches of manufactured work to which modeled ornament is applicable. Students take a preliminary course in freehand drawing, design, and modeling from casts, and then advance to the particular line of ornamentation in which they desire special training. The course includes the principles of form and proportion involved in designs of various kinds, and the adaptation of modeled ornament to different surfaces.

Students of the evening classes who can present work showing the necessary qualifications may begin at once to model from the antique or from life.

ARCHITECTURAL DRAWING

FIVE DAYS EACH WEEK — TWO YEARS.

The course in architectural drawing, occupying both morning and afternoon sessions, aims to qualify students as architectural draughtsmen. It comprises architectural draughting, design, the history of architecture, mathematics, and shop work.

The training of the students is accomplished by lectures and recitations in the class-room, investigation and study in the library, drawing and design in the draughting-room, and practical application of the principles of building construction in the Department of Science and Technology.

Applicants must be at least sixteen years of age. They must pass an examination in freehand drawing, arithmetic, and spelling, and be able to write correctly from dictation selections of English composition. The classes are limited, and only those who reach a high standard can be admitted. Each candidate is expected to present a letter testifying to general ability and moral character.

Entrance examinations will be held in June and in September.

A post-graduate course of one year in design, clay-modeling, and water-color is open to those who successfully complete the two-years' course.

COURSE OF STUDY.

Instrumental Drawing.—The work in instrumental drawing includes problems in the intersections of solids and surface developments, plans, elevations, framing-plans, sections through partitions, doors and windows, and the drawing of the various details which enter into ordinary frame, brick, and stone construction; also, perspective and exercises in the projection of shades and shadows.

Freehand Drawing.—Much attention is given to freehand work, which includes cast drawing from ornament, freehand perspective, pen and pencil sketching, and water-color. Sketches and out-door studies are required during the summer vacation.

Construction.—This subject is covered by a series of lectures upon the processes and materials employed in ordinary building operations. The lectures extend throughout the course. They are supplemented by

problems from given data and by work in the Department of Science and Technology, including practice in joinery, framing, and details of house construction, and work in the testing laboratories. See Department of Science and Technology.

Elements of Architecture.—A course of lectures and exercises upon the forms and proportions of the Greek and Roman orders, balustrades, doors and windows, staircases, vaults, domes, and spires, is given in the second year. These exercises are followed by problems in building design.

History.—The study of the history of architecture is pursued by means of lectures, and by reports from the students upon assigned topics. The reports are illustrated by tracings, drawings, and sketches.

Mathematics.—All students are required to pursue a course in Algebra, plane and solid Geometry, and Strength of Materials.

Theory and Practice.—The purpose of the lectures introduced under this head is to point out the relation of theory to practice. The subjects include the position of architecture among the arts, the theories of form and color, sanitation, graphical statics, and methods of office work.

EVENING CLASSES.

The course of study for evening classes is similar to the day course, with the exception of shop work and some of the lecture courses, but is of necessity much abridged.

In order to obtain required power in freehand work and not to interfere with the consecutive lessons in architectural drawing, students are advised to devote one or more terms to the following subjects (such subjects preceding the regular architectural work when practicable).

- Freehand perspective and sketching in pencil and pen-and-ink.
- Light-and-shade drawing from cast, ornament, and antique.
- Freehand drawing and decorative design in color.
- Modeling and designing ornament in the round.

One of the subjects mentioned on pages 73 and 76 may be taken in connection with the work of the second or third years.

MECHANICAL DRAWING

FIVE DAYS EACH WEEK—TWO YEARS.

The course in mechanical drawing, carried on in connection with the Department of Science and Technology, aims to equip students as thorough and practical draughtsmen, and also to furnish them with a general knowledge of mathematics, metallurgy of iron and steel, machine construction, and elementary steam engineering. The course occupies both

morning and afternoon sessions. The mornings are devoted to drawing and metallurgy, and the afternoons to mathematics, shop work, and laboratory practice. In the Department of Science and Technology the student not only becomes acquainted with the properties of materials and theory of steam and mechanism, but also learns how to apply this knowledge in machine construction.

Applicants must be at least sixteen years of age. They must pass an entrance examination in freehand drawing, arithmetic, and spelling, and must also be able to write correctly from dictation selections of good English composition. The classes are limited, and only those who reach a high standard can be admitted. Each candidate is expected to present a letter testifying to general ability and moral character.

Entrance examinations will be held in June and in September.

COURSE OF STUDY.

- | | |
|--|---------------------------------|
| 1. Freehand working drawings. | 10. Pillow block and hanger. |
| 2. Principles of working drawings,
simple projections, and use of
instruments. | 11. Belting. |
| 3. Geometric problems. | 12. Cams. |
| 4. Machine details from models. | 13. Gearing. |
| 5. Screws, bolts, and nuts. | 14. Crank and strap end. |
| 6. Development of surfaces, and
intersection of solids. | 15. Cross-heads and slides. |
| 7. Machine sketches. | 16. Eccentric and slide valves. |
| 8. Pulleys. | 17. Assembly drawing. |
| 9. Couplings. | 18. Shop drawing. |
| | 19. Distribution of power. |
| | 20. Problems in construction. |

Students are also required to take a parallel course in freehand drawing, mathematics, elements of mechanism, theory of steam engine, metallurgy of iron and steel, strength of materials, etc. Sketches from machine details are required during the summer vacation.

SCIENCE AND TECHNOLOGY.—Instruction is given the first year in joinery, turning, pattern-making, and molding. The second year is devoted to forging and machine-shop work, and to practice in the steam and testing laboratories. See Department of Science and Technology.

EVENING CLASSES.—The course of study is planned to meet the wants of those who wish to study machine construction. With the exception of shop work, the course for the evening classes is an abridgment of that for the day. Opportunity is furnished to the machinist, the sheet-metal worker, the young draughtsman, and others, to learn to read and to make working drawings of the various details of machine construction.

As the work of the classes is in several divisions, applicants should specify the practice they have had in order to be properly graded. One of the subjects mentioned on pages 73 to 76 may be taken in connection with the work of the second year.

APPLIED DESIGN

FIVE DAYS EACH WEEK — TWO YEARS.

The course in design provides thorough instruction in the principles of decorative design, and in the technical methods of practical application, and aims to fit pupils to become professional designers. The course of study printed below contains the subjects taught in the morning classes. The afternoon and evening courses are necessarily abridged.

In addition to the regular study of design, students of morning classes are required to draw from cast the first year, and to work in water color the second and third years. Those who give the entire day to study have the opportunity to complete the course in two years.

Afternoon classes meet twice each week for freehand drawing and the study of the general principles of design. The work of the evening classes is of the special character most needed by those who wish to supplement their daily occupation by a knowledge of design as applied to different materials.

COURSE OF STUDY.

1. Freehand drawing, elements of ornament, and pattern analysis.
2. Original designs in outline from given motives.
3. Foliage from nature in flat washes of color.
4. Preparation of colors, and harmony and contrast of color in applied designs.
5. Original designs in color for tiles, etc.
6. Original designs in historic styles, in color.
7. Study of plant forms and their adaptation to ornament.
8. Original designs in color from plant forms.
9. Designs for prints, book-covers, etc.
10. Designs for wall-papers.
11. Designs for carpets.
12. Decorative designs and schemes of color for rooms.
13. Problems in decoration.

WOOD-CARVING

FIVE DAYS EACH WEEK — TWO YEARS.

The course in wood-carving meets the needs of those who desire a knowledge of the handling of tools, of technical methods in wood-

carving, and also a knowledge of freehand drawing, design, clay-modeling, and the principles of good construction. By working in the afternoon, students have opportunity to complete the course in two years.

Beginning with surface carving for simple objects, students advance to frames, panels, cabinet work, and furniture—originating and applying their own designs. A course may also be taken in light carpentry or cabinet work.

The afternoon and evening classes are especially designed to accommodate students of the Normal Art class, teachers and pupils from other schools, and those students who cannot pursue as comprehensive a course as that planned for morning classes.

The parallel course in drawing is necessarily abridged for afternoon and evening classes.

COURSE OF STUDY.

1. Preliminary exercises ; care and use of tools.
2. Plane and curved surface carving.
3. Diaper carving.
4. Horizontal and vertical lines of decoration.
5. Incised model carving,—conventional and naturalistic treatment.
6. Low relief, half relief, high relief,—flat and curved surface,—conventional and naturalistic treatment.
7. Letters and inscriptions.
8. Cabinet work in historic styles.
9. Sculptured ornament,—conventional and naturalistic treatment.
10. Use of oils, stains, and varnish in finishing woods.

Students also pursue the following parallel course of study :

1. Freehand and instrumental drawing.
2. Elements of ornament,—lines, geometric forms, leaves and flowers and their use in decoration ; original designs for surface covering and borders.
3. Historic ornament and original designs in historic styles.
4. Drawing from plant forms, and adaptation of plant and animal forms to ornament.
5. Clay-modeling.

ART-NEEDLEWORK

FIVE DAYS EACH WEEK — TWO YEARS.

The object of the course is to teach the principles and methods of art-needlework, and at the same time to cultivate artistic feeling and judgment in the choice of design, color, and material, in articles for home decoration.

By giving additional time, or by taking a post-graduate course of one year, students of the two-years' course are able to qualify themselves as teachers or as supervisors of the various kinds of art-needlework.

The course includes freehand drawing, and that work in embroidery which best illustrates the principles of design in decorative needlework. Pupils are required to work the different stitches upon samplers, and afterward to apply them to special pieces of embroidery for which they learn to make their own drawings. As pupils become familiar with the various stitches, and learn to draw and to adapt designs easily, they may make a specialty of any one class of work. Talks are given on historic ornament, and the use of various materials as applied to general house decoration.

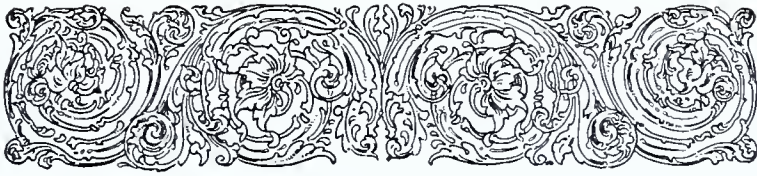
Students entering the morning classes must be at least sixteen years of age, and must be able to sew neatly. The afternoon classes which meet for two lessons each week are for students whose time is limited, or who cannot pursue a course as comprehensive as that planned for morning pupils. Children who can sew neatly, and who can do the work necessary for a just appreciation of the subject, will be admitted to the afternoon classes.

Special arrangements have been made whereby orders can be filled for original designs and for all kinds of embroidery, banners, etc. These designs are drawn by a professional designer, and they may be supplied with materials ready for completion, or the entire work may be done in the department. In addition, the best work of advanced students is exposed for sale in show-cases in the main room on the fifth floor.

COURSE OF STUDY.

1. Flannel work.
2. Tapestry stitches.
3. Spanish laid-work.
4. Laid-work, scallops, and initials.
5. Kensington work — solid and half-solid.
6. Tapestry staining and outlining.
7. Appliqué, on-laid and under-laid.
8. Drawn work, Roman lace, and lace stitches.
9. Bullion work.
10. Ecclesiastical work.

The parallel course in drawing includes freehand drawing, historic ornament, use of natural and conventional forms, lettering, anatomy, and design as applied to various kinds of art-needlework.



DEPARTMENT OF DOMESTIC ART

HARRIET S. SACKETT, Director



THIS department provides comprehensive and systematic courses of study in those branches which are related to healthful and appropriate clothing of the body.

The laws of nature as interpreted by science and art are studied in their bearing upon the physical development and clothing of the human body. Such study leads to more healthful living, and to the cultivation of good taste and wise economy, and supplements the education usually gained in school life.

The courses now given are Physical Culture, Sewing, Dressmaking, Millinery, and Drawing in connection with dressmaking and millinery. The courses of instruction are carefully graded, not only to insure a thorough knowledge of the subject, but also to impress upon the pupil the value of order, accuracy, economy, and logical sequence. The methods of instruction are such as lead pupils to grasp the artistic and scientific principles underlying all good work, and encourage them to observe and judge for themselves, thereby gaining self-reliance.

The rooms devoted to the work of the department, situated on the third floor of the Main Building, are large, sunny, well lighted and ventilated, and fully equipped with the apparatus essential for good work. The electric lights are so arranged as to allow work to be carried on with as much comfort in the evening as in the day. The Technical Museum contains many specimens of textile fabrics, both ancient and modern, and affords pupils ample opportunity for study. The rooms are also provided with casts of the best sculpture, and photographs and colored plates of costume. The Library is also an important factor in the usefulness of this department. The best and latest books treating of domestic art and science are constantly added, and material on the topic in hand is collected for the pupils.

In all branches of instruction there are morning, afternoon, and evening classes, besides the classes for the girls of the High School. The evening classes are provided for those whose duties prevent attendance

during the day. The courses of study in these classes follow the plan of the day work as far as the limited time permits. The number of pupils in each class is limited, that all may have opportunity for practical work under the direction of the teacher. The instruction is given by means of lectures and recitations as well as by practical work.

Lectures on subjects closely related to the work are given during the year by well-known specialists. Attendance is expected from the pupils.

Pupils are received at the beginning of each term of the school year, and classes are then formed to begin the various courses. Applicants are required to present their application blanks one month before the beginning of the term for which they wish to enter.

The *Certificate* of the Institute will be awarded to those students who complete satisfactorily the full course of instruction in the following :

SEWING ; DRESSMAKING ; MILLINERY.

For further information regarding the Certificate, see page 15.

SEWING

The complete course includes three graded courses of three months each with two lessons a week. In connection with the course talks are given upon the various materials used, with special reference to judicious purchasing. A collection of specimens of the different kinds and qualities of materials used is arranged in the class-room, for the inspection of the pupils.

Each pupil is required to record in a note-book the instruction received at each lesson, and a written examination is given at the end of each term.

FIRST GRADE.

This grade is devoted to hand sewing. Practice is given in all the various stitches upon small pieces of suitable materials which are furnished by the school ; other materials are furnished by the pupil.

COURSE OF STUDY.

Method of threading needle, making knot, and using thimble.
Position of body while sewing.
Talks on the manufacture of the needle and thimble.
Basting and overhanding.
Turning hem by measure, hemming, and running.
Talks on weaving.
Stitching and overcasting.
Back-stitching and felling.
Gathering, stroking gathers, and putting on bands.
Making button-holes and eyelets ; sewing on buttons.

Putting in gussets.
Talks on the nature and manufacture of cotton and emery.
Herringbone stitch on flannel.
Patching.
Hem-stitching, tucking, and whipping ruffle.
Chain-stitching, feather-stitching, and mitering corners.
French hem on damask.
Darning on scrim, cashmere, and stockinet.
Slip-stitching and blind-stitching.
Mending and darning.
Examination.

SECOND GRADE.

To enter this grade, the pupil must be familiar with all the stitches used in hand-sewing. A certain amount of sewing is required to be done at home between the lessons. Pupils select and furnish their own materials, but machines and lapboards are furnished by the school.

COURSE OF STUDY.

Choice of materials.	Cutting underwaist, basting, fitting,
Taking measures.	stitching, and trimming.
Machine stitching.	Cutting and making a dressing-sack.
Draughting skirt.	Examination.
Cutting and making white skirt.	

THIRD GRADE.

This grade is intended for those who have completed the second, and desire to perfect themselves in fine sewing, garment-making, and repairing.

COURSE OF STUDY.

Fine hand-sewing.	Talks on the growth and manufacture
Advanced machine-work.	of linen, wool, and other fine
Draughting and making undergarments.	textiles.
Making a dress without lining.	Making baby-linen and child's dress.
	Making silk waist.
	Examination.

SPECIAL COURSE.

FOUR MORNINGS EACH WEEK — THREE MONTHS.

This special class has been arranged for those desiring to complete the entire course in three months.

Applicants must bring for inspection a garment which shows some knowledge of hand and machine sewing, and must pass an examination which proves their ability to take up the required work.

Those who have satisfactorily completed the full course, and have made without assistance a test garment, will receive certificates.

SATURDAY MORNING CLASSES.

These classes, meeting from 9 to 11 o'clock, are for children between the ages of six and fifteen years. The course of study has been arranged to suit their capacity and to arouse their interest. Children learn to sew easily and with pleasure, thus laying a foundation for becoming good workers in later years.

COURSE OF STUDY.

Position of body while sewing.	Herringbone stitch on flannel.
Running.	Talk on emery and wool.
Overhanding.	Chain-stitching and feather-stitching.
Talk on weaving.	Flannel skirt for doll.
Hemming.	Hemmed patching.
Making pillow-case for doll.	Over-handed patching.
	Talk on the thimble.
Stitching.	Hem-stitching, tucking, and whipping ruffle.
Felling.	
Talk on the needle and cotton.	
Gathering and putting on a band.	Draughting and making drawers for doll.
Review weaving.	
Making an apron for doll.	Lesson on color.
	Darning on scrim, cashmere, and stockinet.
Making button-holes and eyelets; sewing on buttons.	French hem on damask.
Putting in gusset.	Making garments for themselves.

Throughout the course the pupil writes in a note-book the important points of each lesson, illustrating as fully as possible by diagrams.

DRESSMAKING

The complete course is systematically graded, and comprises four grades of three months each. Three lessons a week are given—two of two hours each devoted to practical work, and one of one hour to freehand drawing and design.

Applicants must be at least eighteen years of age, and must have successfully completed the first and second grades of the sewing course, or must submit samples of their work which prove their knowledge of hand and machine sewing, and their ability to make simple garments and cambric dresses.

Materials used are selected and furnished by the pupils. Large tables for draughting, tracing, and cutting, sewing-machines, dress forms, mirrors, books of models, samples of dress materials, and lockers for storing work are supplied by the school.

In order that the pupil may gain a knowledge of design, and the ability to originate and make tasteful garments, talks are given as a part of each course on hygiene, on the selection of fabrics, and on form and harmony of color in dress.

A parallel course in drawing, under the direction of the Art Department forms a part of the dressmaking course. This course is in four grades, and is designed to train the eye and hand, and to enable pupils

to sketch their own models. The first includes pencil practice, the study of drapery, and the appearance of cylindrical objects ; the second, drawing of waists and gowns, and practice in the use of color ; the third and fourth, problems in design, sketches in water color, and study of the human form.

Each pupil is required to record in a note-book the instruction received at each lesson. Throughout the course the work cut and planned in the class must be finished at home, and pupils are required to show a satisfactory knowledge of the elementary work before entering the higher grade.

A special class, beginning in the fall term and covering in nine months the full course of instruction as outlined below, has been arranged for those who can devote themselves wholly to the work, and who desire to finish the course in as short a time as possible.

FIRST GRADE.

The first grade is designed to instruct those who have a fair knowledge of hand and machine sewing and the making of simple dresses, in the best method of cutting from pattern and finishing tasteful dresses of wool or cotton. This is the foundation of good dressmaking.

The principles of cutting skirts from measure, and of neatly finishing and hanging them, are taught. Close-fitting waists with French darts are cut from a pattern made for each pupil according to the system used in the second grade. Pupils are shown a variety of materials, and are instructed in regard to the texture, color, and suitability of each for various uses and for different types of wearers. The talk on form treats of the most becoming manner of making a dress by adapting lines of the material to the lines of the figure, and selecting trimmings suited to the material and to the character of the figure. Dresses are planned to carry out these principles. Each pupil is required to complete one dress for herself, and to do as much practice work at home as is possible.

COURSE OF STUDY.

Talk on color and textiles applied to dress.	Basting, fitting.
Instruction in the choice of materials.	Trimming, finishing.
Cutting foundation skirt from measure.	Examination.
Finishing skirt for trimming or draping.	

DRAWING.

Talk on form, line, and proportion in relation to draping and trimming.	Pencil practice.
Planning skirt.	Study of the appearance of cylindrical objects.
Draping skirt.	Study of drapery.
Cutting waist and sleeves from pattern.	Drawing of skirt, bows, etc.

PRATT INSTITUTE

SECOND GRADE.

Applicants must complete the first grade, or submit a dress of their own making, and pass an examination on the first grade.

This is intended for those having a thorough knowledge of finishing and making wool dresses by pattern, who desire to learn cutting and fitting from measure either for home or professional use. Much time is given to practice in taking accurate measures as the basis of success in fitting garments.

Instruction is confined entirely to the draughting and fitting of waists, in order to make the work as practical as possible. Constant practice in draughting at home is required.

Two waists, one of plain and one of striped or plaid material, are completed.

COURSE OF STUDY.

Talk on woolen textiles and their manufacture.	Cutting and matching striped or plaid waist.
Choice of materials and colors.	Draughting waist with extra seam for large figures.
Practice in taking measures.	Trimming and finishing waist.
Talk on form, including artistic and hygienic principles of dress.	Examination.
Instruction in draughting close-fitting waist.	DRAWING.
Cutting and fitting waist linings.	Drawing of waists and gowns.
Cutting and fitting plain cloth waist.	Notes on form and color.
	Practice in the use of color.

THIRD GRADE.

The third grade is designed for those pupils who have satisfactorily completed the second, and includes the making of house and evening dresses which embody artistic lines and harmony in coloring.

COURSE OF STUDY.

Instruction in choice of materials for house and street wear, considering color and texture.	principles of variety, unity, and repose.
Talk on the growth and manufacture of silk.	Cutting and making house or evening dress from original design by pupil.
Taking measures and draughting princess dress.	Review draughting.
Talk upon the contour and poise of the body as essential in artistic dress.	Examination.
Planning princess dress.	DRAWING.
Cutting and making princess dress.	Problems in design.
Practice in draping, illustrating the	Sketches in water color, of gowns, etc.
	Outline and proportion of the human form.

FOURTH GRADE.

This grade is intended to complete the dressmaking course, and the instruction gives the pupil some knowledge of tailor finish as applied to jackets and gowns.

COURSE OF STUDY.

Talk on the manufacture of cloths.	Draughting child's dress and coat.
Draughting jackets of various styles.	Examination.
Cutting, basting, fitting, and pressing.	DRAWING.
Making various styles of pockets and collars.	Problems in design in pencil, pen-and-ink, and water color.
Lining and finishing jacket.	

SPECIAL COURSE.

FIVE MORNINGS EACH WEEK — ONE YEAR.

This class is organized in September, and completes in nine months the full course described above. It has been arranged for those who can devote their whole time to the study. The class meets daily, except Saturday, from 9 to 1 o'clock, and sufficient home work in drawing, sewing, and study, is required to occupy the rest of the day. This class is a satisfactory one for those who wish to become dressmakers, since they have an opportunity toward the close to make dresses for others, and so gain some experience.

Applicants must be at least eighteen years of age, must have a knowledge of making dresses from pattern, must bring for inspection a dress which in its finish proves their ability to do good work, and must pass an examination in the first grade of the regular course.

Those pupils who satisfactorily complete the full course in dressmaking and drawing, and pass all test examinations, will receive certificates.

MILLINERY

In this branch of the department there are three grades, each covering a term of three months, with three lessons a week — two in practical work of two hours each, and one of one hour in freehand drawing and design.

Applicants must be over eighteen years of age, and must be able to do neat hand sewing. Pupils are required to complete satisfactorily the first grade, or to pass an equivalent examination, before entering the advanced classes.

All materials used are selected and furnished by the pupils. In the class rooms there are hats of choice materials, selected with great care, which are used as models to educate the eye of the pupil; also a collec-

tion of samples of the various materials used in millinery, and pictures illustrating the history of costume in all countries.

Talks are given during the course, on the suitability of materials, combination of colors, and character of lines and form as essential to artistic millinery.

The parallel course in drawing, under the direction of the Art Department, is a part of the course in millinery. Its aim is to train the eye and hand, thus enabling pupils to apply the laws of design to millinery and to sketch their own models. It is in three grades. The first includes pencil practice, the study of bows and drapery, and the appearance of cylindrical objects; the second, drawing of trimmed hats and bonnets, and practice in the use of color; the third, problems in design and sketches in water color.

As a help toward original work, pupils are required throughout the course to make hats and bonnets at home, and to submit them for inspection.

Each pupil is also required to record in a note-book the instruction received at each lesson.

FIRST GRADE.

The first half of the grade consists of instruction in the methods of making the various facings and edges used on the brims of large hats, and trimming with suitable bows. The method of making plain covered hats is also taught. This forms the basis of all subsequent work, and is therefore most important.

Materials used for this practice work are colored cotton flannel to represent velvet, and harmonizing shades of sateen cut and used as ribbon. With these materials old straw and felt hats and new buckram frames are trimmed and covered. In order to apply the principles learned in practice work, the remaining lessons are devoted to making and trimming a hat of choice materials selected by the pupil.

COURSE OF STUDY.

Talk on color and textiles.	Plain covered hat, made, trimmed, and lined.
Instruction in choice of materials.	Principles applied to a hat of choice materials.
Wiring.	Examination.
Folds.	DRAWING.
Binding.	Pencil practice.
Fitted facing, full facing.	Study of the appearance of cylindrical objects.
Puffed edge.	Drawing untrimmed hats.
Varieties of bows.	Drawing drapery, bows, etc.
Talks on the manufacture of straw and felt hats, and of ribbon.	
Talks on form and line.	

SECOND GRADE.

Practice in making various kinds of bonnets, using cotton flannel and sateen, forms the first part of this grade. Afterward those pupils who wish to become professional milliners, or who desire certificates, are instructed in making bonnets of crape and silk, while the others apply the principles to a bonnet of good colored materials. After practice work upon toques and turbans, the grade is completed by the application of the principles to a hat of choice materials.

COURSE OF STUDY.

Talks on color, form, and line.	Shirred bonnet.
Plain covered bonnets made, trimmed, and lined.	Fancy toque or turban.
Full-crowned, fancy edge bonnet.	Principles applied to a bonnet and to a toque or turban of choice mate- rials.
Talk on the manufacture of crape, and on the growth and manufac- ture of silk.	DRAWING.
Crape bonnet.	Drawing trimmed hats and bonnets.
Silk hat or bonnet.	Notes on form and color.
	Practice in the use of color.

THIRD GRADE.

Throughout this grade pupils work in choice materials to gain confidence and experience. Each pupil makes three or more hats for herself or friends, suited in style and materials to the season in which this part of the course is given. It is desirable, therefore, that the student pursue this grade during both the fall and the spring terms so that she may become familiar with the work suitable to each season.

COURSE OF STUDY.

Making buckram and wire frames.		
WINTER SEASON.	SUMMER SEASON.	DRAWING.
Fancy toque.	Fancy toque.	Time and memory sketches.
Evening bonnet.	Lace bonnet.	Problems in design.
Large velvet hat.	Large net hat.	Sketches in water color, of hats, etc.

SPECIAL CLASS.

FIVE MORNINGS EACH WEEK — THREE MONTHS.

This class, completing in three months the full course described above, with the exception of the third grade, which is necessarily abridged, has been arranged for those who can devote their whole time to the study, as well as for those who wish to become milliners. Much home work is required.

Applicants must pass an examination, and submit for inspection a hat which has been made by themselves, and which shows their ability to undertake the course.

Those pupils who satisfactorily complete the full course in millinery and drawing, and pass all test examinations, will receive certificates.

PHYSICAL CULTURE

An important educational consideration of our times is how to afford women that personal culture which shall give them ease and self-possession ; which shall combine with the training of the mental faculties, such training of the bodily organs as will best fit them to fulfill the requirements of life. The cultivation of graceful and refined manners cannot fail to exert upon the mind a purifying and refining influence.

Physical culture is also essential in the teaching of the principles of artistic dress ; since it is obvious that there must be a natural and well-proportioned body to clothe, else the clothing cannot be beautiful in the truest sense of the word.

The first lesson to be learned concerning perfect physical development is the appreciation of a beautiful form. The second is to make our own bodies as nearly like this ideal as possible, by exercise, by diet, and by every healthful process. The next step is to learn how to procure such dress as will fittingly adorn the body. This movement toward physical culture and improved dress means more than the mere giving up of tight clothing ; it implies also the strengthening and freeing of the muscles, resulting in health of body, conservation of nervous energy, and grace of motion.

With these ideas for a basis, classes in Physical Culture have been organized, meeting once a week for a lesson of one hour's duration.

Each class is limited in number in order that all students may receive personal attention from the teacher, who is both experienced and thoroughly trained.

The course consists of general exercises for energizing and strengthening every part of the body, especially that part in which the vital organs are situated. Special attention is paid to breathing and the development of the lungs.

Some of the exercises are particularly adapted to the development of the chest, neck, and shoulders ; to the strengthening of the abdominal muscles ; and to overcoming and preventing corpulency.

The aim will be to correct bad habits of carriage, movement, and breathing, and thus to develop a healthy, natural, and beautiful body.



DEPARTMENT OF DOMESTIC SCIENCE

EMMA O. CONRO, Director

"The prosperity of a nation depends upon the health and morals of its citizens; and the health and the morals of a people depend mainly upon the food they eat and the homes they live in."—ELLEN H. RICHARDS.



IF the national life thus depends upon the individual homes, the home demands the exercise of woman's best powers broadly and carefully trained.

That a purely intellectual culture has failed to accomplish with entire satisfaction the needful preparation for the many-sided and serious demands of daily life, is a matter of common observation. That the culture is at fault, or that it is superfluous, no one believes; it is felt rather that something more is necessary. If, then, to a broad culture we add special instruction bearing directly upon health and living, the desired end is perhaps attainable.

With constant reference to health as the chief object sought, the purpose in the following Domestic Science courses is to afford training and instruction in these special subjects which must be considered in the daily administration of every home.

To meet the varied needs of students in these lines, EDUCATIONAL and TECHNICAL courses, affording both theoretical and practical instruction, are offered. Large, well-appointed chemical and physical laboratories, attractive kitchens, valuable charts and models, an extensive library, and a rich museum, here constitute an efficient equipment for theoretical and practical work.

The EDUCATIONAL section affords both theoretical and practical instruction in the following courses:

Normal Domestic Science Course.
Household Science.

Emergencies, Hygiene, and Home Nursing.
Public Hygiene.

Cookery.

The TECHNICAL section includes the practical side only of the courses in the following subjects :

Cookery. Laundry-work.

Lectures.—The work of the Normal course is supplemented by a series of lectures, open to the public, given by special investigators in their different fields. The following course has been arranged to meet the various phases of the work.

- Food Production and Economy in the United States Edward Atkinson, LL.D., Boston.
The Constituents of Food and the Energy that they
Contain Prof. W. O. Atwater, Washington, D. C.
Digestion and the Physiology of Cookery W. T. Sedgwick, Ph.D., Boston.
The Meat and Milk Supply of Cities Mrs. R. H. Richards, Boston.
The Water Supply of Cities T. M. Drown, Ph.D., Boston.
The Disposal of the Wastes of Modern Life Dwight Porter, Boston.
Personal Hygiene — The Care of the Body W. T. Sedgwick, Ph.D., Boston.
Public Hygiene — The Care of the Body Politic, J. S. Billings, M.D., Washington, D. C.

The *Diploma* of the Institute will be awarded to those students of breadth of thought and training who complete with entire satisfaction the work of the NORMAL DOMESTIC SCIENCE COURSE.

For further information regarding the Diploma, see page 15.

Educational Section

NORMAL DOMESTIC SCIENCE COURSE

FIVE DAYS EACH WEEK—TWO YEARS.

This course, which requires two years for its completion, aims to meet the increased demand for teachers thoroughly trained in Domestic Science. The work of the course, satisfactorily completed, will qualify pupils to fill positions as instructors in Domestic Science in private and public schools, and in colleges.

The requirements for admission include, in addition to a satisfactory statement regarding general scholarship, examinations in :

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| Arithmetic (percentage and the metric system). | Physics (elementary — Gage or its equivalent). |
| Algebra (through simple equations). | Physiology (elementary). |

Instruction will be given by means of lectures and recitations, supplemented by as much laboratory work as the best methods demand. Each

branch of the work is under a specialist, and is often conducted in departments other than the Domestic Science.

FIRST YEAR — German.

Physics (energy and heat)

Chemistry (general and qualitative).

Biology (bacteriology and physiology).

SECOND YEAR — Chemistry (quantitative) ; chemistry of cooking.

Chemistry of foods and calculation of dietaries.

Household Science.

Hygiene and Home Nursing.

Public Hygiene.

The applied work includes courses in cookery, laundry-work, and sewing.

The field-work involves a study of manufacturing processes. Through this real knowledge of commercial methods is acquired a valuable fund of information of practical use.

Lectures upon psychology and the history of education, together with instruction in normal methods, observation of class work, and practice in teaching, receive due attention throughout the two years.

A brief consideration of some of the more conspicuous branches of the normal work will reveal something of its philosophy.

SCIENTIFIC WORK

A trained intelligence being the aim, subjects contributing alike to training and to technical acquirement are fundamental. The student following the steps which all properly-conducted laboratory work involves, the study of physics and chemistry will develop the daily-demanded power to observe, to compare, to conclude. Among the desirable habits formed will be those of system, accuracy, and economy. Aside from this inestimable training of mind and hand, any serious consideration of physiology and of foods requires the technical acquirement which these subjects confer.

The chemistry of cookery and of foods, the study of ferments, of food adulterations and their tests, naturally follow as the resultant of the previous studies.

The bearing of Bacteriology upon sanitary science renders desirable a scientific and practical study of this side of Biology. Primarily the purpose is to show that cleanliness is a first condition of sanitation.

General classification of cryptogamic plants.

Microscopic examination of mould fungi, yeasts, bacteria.

Special subjects ; Schizo-mycetes—bacteria, or fission fungi.

Cover-glass preparations ; methods of staining bacteria ; permanent mounts.

Koch's Methods of Culture :

- | | |
|---|---------------------------------|
| 1. Beef-juice-peptone-agar. | } Stab and stroke cultivations. |
| 2. Beef-juice-peptone-gelatine. | |
| 3. Potato slices (Stroke cultivations). | |

Isolation of colonies ; Plating (Petrie dishes), Esmarch tubes, potato slices.

The examination of ice, water, air, butter, and meat.

Under experimental work is included the sterilization of milk and of meat, a study of yeasts, and other practical applications of the subject.

A reading knowledge of German is necessary for bacteriology, as well as for physiological chemistry, which is an essential feature of a scientific study of food problems.

Household Science.—The essential principles of house sanitation, household art, and household economy are taught by means of lectures, recitations, laboratory and field work.

The practical laboratory work includes tests for impurities in water, the study of antiseptics and disinfectants, the determination of the "flashing-point" of oils, and other investigations bearing directly upon the topics.

The field work comprises the study of sanitary conditions and appliances, and their application in private and other houses.

Emergencies, Hygiene, and Home Nursing.—The aim of these courses is to give a sound, if limited knowledge of the laws of health — to enable women to care intelligently for sudden illness or accident, and to perform the duties of nurse where trained service is not employed.

For detailed outlines of these subjects, see Special courses.

APPLIED WORK

Cookery.—The aim of the work in this direction is to illustrate applied science,—Physics, Chemistry, and Physiology.

The instruction based upon laboratory methods is both theoretical and practical. The chemical, physiological, and economic consideration of foods forms a parallel course with the instruction in the culinary treatment.

Occasional papers are required, treating of various food-ingredients and foods. The composition, sources, chemical and physical tests, microscopic features, food value, and cost, are some of the topics discussed. A nutritive, attractive, and varied bill of fare, at a minimum cost, is another form of written work occasionally required.

The elementary practical work includes a course in invalid cookery, the preparation of cereals, vegetables, and meats, soups, salads, fancy

desserts and cakes, frozen creams, a breakfast, a luncheon, and a dinner. Advanced courses follow the elementary ones.

Laundry-work.—Theoretical and practical instruction is given in the twelve lessons forming the course in laundry-work. A study of the principles underlying the various processes is followed immediately by individual practice in these processes. Soaps, starch, washing-fluids, bleaching-powders, and bluing, are chemically and practically considered. Visits to the manufactories of these articles form a feature of the work.

In the practical work, every variety of article, from bed-linen to the most delicate colored embroidery, is laundered.

Sewing.—The requirements for the Normal domestic science class include hand and machine work, the cutting and making of several pieces of underwear, and theory and practice in draughting a gown.

While the Normal course, with its theoretical and applied work, is designed especially for students preparing to teach Domestic Science, its classes are open to all women qualified to enter, who desire the preparation thus afforded for the serious duties and the fine art of home-keeping.

A few of the courses already referred to under the Normal curriculum are repeated as Special courses, some of which offer both day and evening classes.

The evening classes are in all cases reserved for those who are occupied during the day.

HOUSEHOLD SCIENCE

This course of lectures, defining and illustrating the essential principles of the subjects discussed, covers a period of one year.

Following is a brief outline of the course :

- (a) HOME SANITATION— Situation of the house, surroundings, and cellar.
Removal of wastes—plumbing and care of fixtures.
Substitutes for water-carriage.
Water-supply.
Ventilation, heating, lighting.
Sanitary furnishing and general care of the house.
- (b) HOUSEHOLD ART— Architecture.
Interior decoration.
Furnishing.
- (c) HOUSEHOLD ECONOMY—The arrangement of work and furnishings.
The care, in detail, of every portion of the house.
Housecleaning.
Household accounts.
Mistress and maid.
Household amenities.

EMERGENCIES, HYGIENE, AND HOME NURSING

There are three courses, each consisting of twelve lectures of one hour's duration.

The work of bandaging, artificial respiration, application of splints, lifting helpless patients, and preparing and applying poultices, is done by the pupil under the personal supervision of the instructor, until a reasonable degree of proficiency is attained.

FIRST COURSE.

Heart and circulation of the blood.

General direction of main arteries.

Various bleedings and ways of arresting them.

Immediate treatment of those fainting, apparently drowned, or otherwise suffocated, or suffering collapse from injury.

Immediate treatment of burns, scalds, wounds, and bruises.

Observing and recording pulse, respiration, and temperature.

Furnishing, warming, and ventilating the sick-room.

Bathing, dressing, and administering food and medicines to patients.

Practical bandaging, bed-making, and lifting and propping helpless patients.

SECOND COURSE.

Prevention and management of bed-sores.

Treatment of fevers ; bathing, sponging, diet, use of disinfectants.

Nursing special diseases and children ; immediate treatment of fractures, sprains, unconsciousness, epilepsy, hysteria, poisonous bites, sunstroke, frost-bites ; poisons, and their antidotes.

Practical preparation and application of poultices, blisters, and stupes ; packs and vapor-baths.

Carrying the sick and injured.

THIRD COURSE.

Hygiene of infancy and childhood ; growth, food, and artificial feeding, teething, clothing, exercise, etc.

Outlines of physiology and hygiene for adults ; care of eyes, ears, skin, digestion, and lungs, illustrated by rough dissection of animal heart, lungs, and eye.

PUBLIC HYGIENE

The courses devoted to the consideration of house sanitation, and to individual hygiene, culminate naturally in the study of problems concerning the public health, or the care of the body politic.

The principal subjects considered are :

The care of streets, sewers, water-supply, etc.

Precautions against the spread of contagious diseases.

Quarantine disinfection.

The laws, and the reasons for the same, concerning the inspection of milk, butter, meat, etc.

School hygiene.

COOKERY

Each course consists of twelve lessons, each of two hours' duration. The High School, the Saturday Morning School-Girls', the Physicians' or Nurses', and the Housekeepers' classes are included under this division.

With all these students the economic and other advantages of the Aladdin Oven and other modern appliances are demonstrated.

Housekeepers' Class.—The Housekeepers' class is designed for mothers and housekeepers, many of whom, though without scientific training, nevertheless desire a somewhat deeper study of foods and their preparation than a merely technical one affords.

An outline of the practical work follows.

COURSES A AND B.—THREE MONTHS EACH.

Making and care of fire.

Dish-washing and care of kitchen.

Boiling meats, vegetables, and cereals.

Soups.

Stewing and braising.

Warmed-over dishes.

Simple invalid cookery.

Broiling.

Frying and sautéing.

COURSES.—THREE MONTHS.

Clear soups and bisques.

Soufflés and croquettes.

Salads, French and mayonnaise dressing.

Entrées and sauces.

Roast game.

Fancy desserts and cakes.

Frozen creams.

A breakfast.

A luncheon.

A spring dinner.

A winter dinner.

Physicians' or Nurses' Class.—In the Physicians' or Nurses' class, where the study of nutrition is of first importance, special emphasis is directed to the results of laboratory and hospital investigations bearing upon the nutritive value and the digestibility of foods as affected by seemingly unimportant conditions in their preparation.

Technical Section

COOKERY

COOKERY AS AN ART—PRACTICAL LESSONS ONLY—DAY AND EVENING.

Regular Course.—The practical work of this course is the same as that outlined in courses A, B, and C in the Educational Section. The same amount of time is required for this course, and the length and number of lessons are the same. The classes are limited to twenty pupils each.

Special Course.—THREE LESSONS EACH WEEK.—A class completing the work of courses A, B, and C in three months has been arranged for those whose time is limited.

Fancy Course.—The following suggestions for a course in Fancy Cookery are offered to pupils qualified for advanced work. These are subject to additions and individual suggestions from the class. The course consists of twelve lessons of three hours each. Pupils furnish materials. The class is limited to eight members.

COURSE.

Preserves, jellies, and pickles.	Imperial cake.
Boned chicken.	Cider cake.
Mutton duck.	Stuffed mousse.
Lobster à la Newburgh.	Nesselrode pudding.
Terrapin.	Macédoine of fruit.
Puff paste.	Chantilly baskets.
Vol-au-vent, etc.	Royal diplomatic pudding.

Chafing-dish Course.—A series of lessons upon the use of the chafing-dish, illustrating the convenience and attractiveness of this method of cookery.

Private Lessons.—Private lessons are given to those desiring special instruction. To all pupils, except those taking the Fancy Course or private lessons, materials are furnished free of charge.

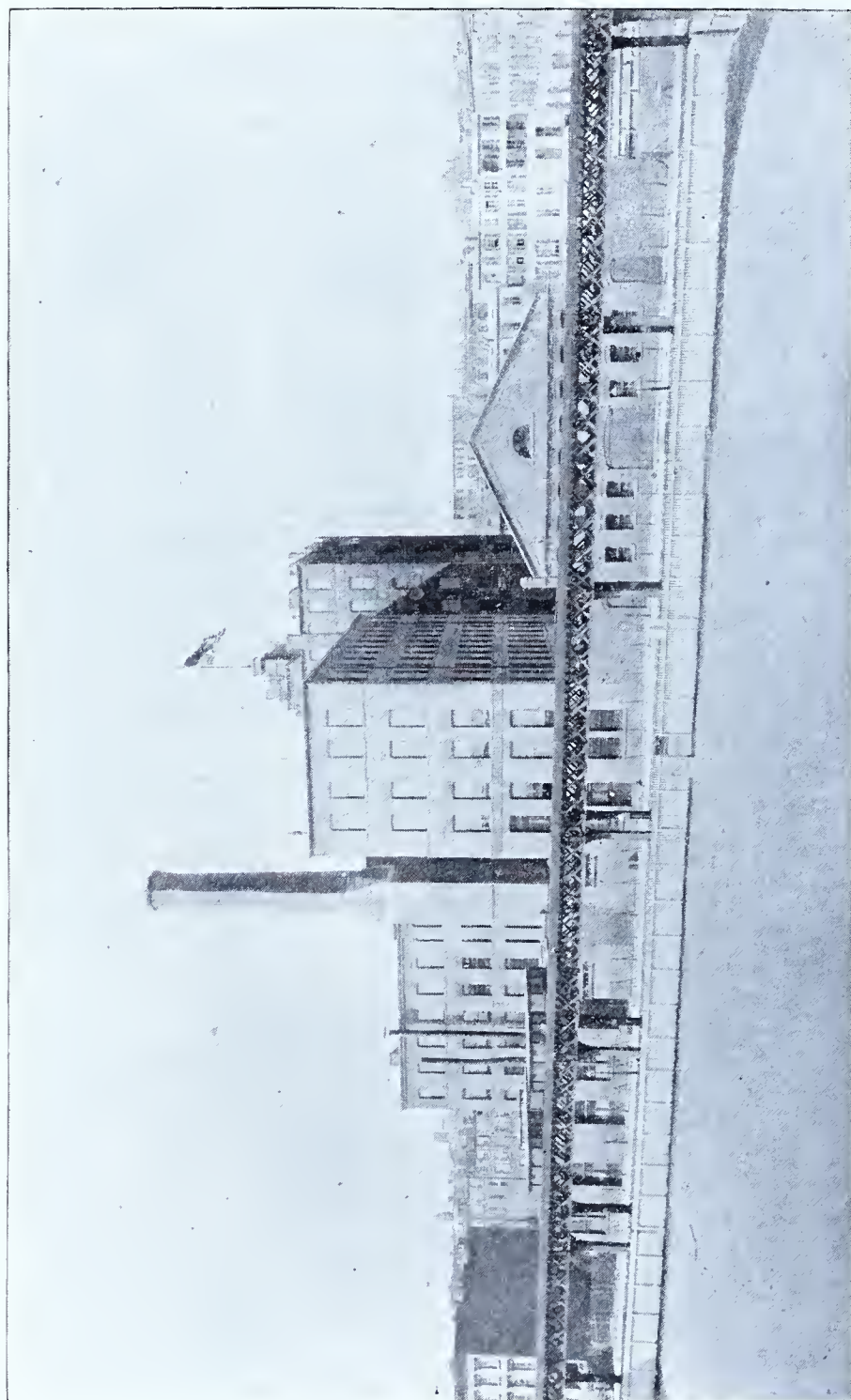
LAUNDRY-WORK

DAY AND EVENING CLASSES.

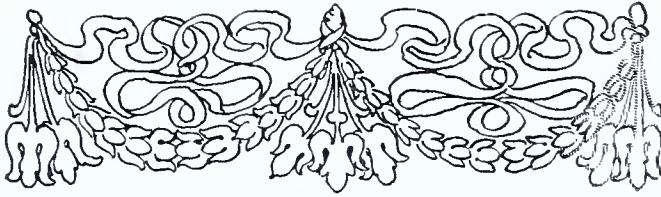
The articles washed in one lesson are ironed in the following one. The course covers three months, and includes the following lessons :

- I. (a) Some historical notes regarding laundry-work, location of the laundry, appointments, care of appointments.
- (b) Classification of articles to be laundered. White—table-linen, bed-linen, body-linen. Colored—flannels.

2. (a) Theory : talk upon water, washing soda, soaps, bleaching-powders, bluing, with tests. Methods of removing stains.
(b) Practice work : scalding, rinsing, and bluing bed-linen and towels.
3. (a) Theory : sprinkling, stretching, folding, and ironing. Starch—history and preparation.
(b) Practice work : starch-making. Table-linen.
- 4 and 5. Body linen and handkerchiefs.
- 6 and 7. Shirts, collars, and cuffs. Cold and boiled starch.
8. Underwear—silk, merino, flannel.
9. Prints and hosiery.
10. Clear-starching : infants' dresses, fancy handkerchiefs.
11. Laces and embroidery.
12. Crewel embroidery. Colored silk embroidery.



PRATT INSTITUTE
REAR VIEW FROM GRAND AVENUE



DEPARTMENT OF SCIENCE AND TECHNOLOGY

CHARLES R. RICHARDS, Director



ESIDES the Science and the Manual Training included in the High School course, which are described in detail under the High School, page 19, this department affords instruction in various scientific and technical subjects, as well as a practical training for the principal mechanical trades.

To carry out this work the department is equipped with a series of shops and laboratories, which are supplied with every appliance that can in any way enlarge the scope and promote the efficiency of the instruction.

Although the chief aim of the various courses is to afford instruction of direct value in industrial and technical pursuits, they also serve to continue in certain lines the education of all whose school training has been necessarily limited.

The *Certificate* of the Institute will be awarded to those students who complete satisfactorily the course of instruction in the following :

DAY TRADE CLASSES IN CARPENTRY OR IN MACHINE SHOP PRACTICE.

For further information regarding the Certificate, see page 15.

The outline given below, except where otherwise mentioned, applies only to evening classes, which meet as far as possible on different evenings in the week, so that opportunity is afforded in many cases of taking more than one subject at a time.

ALGEBRA

The course includes a study of simple equations, factoring, fractions, and quadratic equations, and involves frequent practice with problems containing one or two unknown quantities. The primary object of the course is to afford a training which will allow the student to take up the study of scientific and technical subjects such as those mentioned below.

Applicants for this class will be examined in the operations of elementary arithmetic, including fractions, percentage, proportion, powers and roots, and mensuration, on Friday, September 22, at 7.30 p.m.

The class meets on Monday, Wednesday, and Friday evenings, from 7.30 to 9.30, during the first term.

GEOMETRY

Instruction is given by means of lectures and recitations, and deals with the properties of lines, angles, and plane figures as involved in the elements of plane geometry.

The application of the propositions to methods of drawing and construction is carefully studied, and many practical problems are given. The course is suitable for those who wish to acquire an elementary knowledge of the subject for practical purposes, or as a foundation for further study.

Applicants for this class must either have satisfactorily completed the above course in algebra, or pass an examination upon the matter of the same.

The class meets on Monday, Wednesday, and Friday evenings, from 7.30 to 9.30, during the second term.

PHYSICS

The course includes study of the phenomena of mechanics, heat, sound, color, and electricity, devoting the greatest attention to the first two subjects. Under these two subjects are considered the properties of matter and force, pressure and density of fluids, laws of motion, work, and energy, laws of machines, friction, effect of heat, ventilation, and the transformation and conservation of energy.

Throughout the course individual practice is afforded in the thoroughly equipped physical laboratory, where many experiments are performed, and the principles brought out in the lecture room are studied at first hand.

The purpose is to make the course of great practical value, and the bearing of the subject upon the constructive arts is specially emphasized.

Classes meet on Tuesday, Thursday, and Friday, from 7.30 to 9.30 p.m.

All the above courses afford an extremely desirable preparation for the classes in Electrical Construction, Steam, Strength of Materials, and Machine Design.

CHEMISTRY

The course provides for three years' consecutive work. Theoretical instruction is supplied by means of lectures and recitations, and is followed at each session by individual practice in the laboratories.

The facilities of the laboratories are exceptionally fine, and the outfit loaned to each student lacks nothing that is necessary for the most thorough individual work. The size of the classes is limited, in order that each student may have abundant room to carry on his work in the laboratories efficiently and without interference.

The first year is devoted to a study of principles and laws underlying chemical combinations, the properties of inorganic elements and compounds, the production and tests for the elementary gases and common acids, the reduction of metallic compounds, and simple group analyses.

The second year is confined to qualitative analysis, a study of solubilities, the analytical reaction of each base, analyses of solutions and solids, determination of acid radicals, and spectrum analysis.

The third year is devoted to quantitative work, and includes a short course in assaying. Considerable latitude is allowed during this year for elective work.

Classes meet on Monday, Wednesday, and Friday, from 7.30 to 9.30 p.m.

ELECTRICAL CONSTRUCTION

This course aims to give a knowledge of the principles of dynamic electricity and magnetism, and to trace the application of these principles to the methods and constructions of actual practice.

Instruction is given by means of lectures and laboratory work. The lectures take up the analysis of the magnetic field and lines of force, magnetic circuit, properties of electric current, electro-magnets, induced electro-motive force, electrical units and work of currents, and the application of these principles to the construction of primary and secondary batteries, telephones and telegraph, dynamos, motors, transformers, measuring-instruments, and the arc and incandescent lighting systems.

The laboratory work deals with the verification of the laws brought out in the lecture-room, and affords continuous practice in the use of measuring-instruments—voltmeter, ammeter, and Wheatstone bridge; and experimental study of the action of both continuous and alternating current dynamos and motor.

An examination of the applicants for this class will be held on Wednesday, September 20, at 7.30 p.m., in arithmetic and in algebra through simple equations.

Classes meet on Monday and Friday, from 7.30 to 9.30 p.m.

STEAM AND THE STEAM ENGINE

Although the subject is presented in a very simple manner, so as to reach those who have not had an extensive preparation in mathematics, a knowledge of elementary geometry and algebra is exceedingly helpful.

The instruction deals with the nature and laws of heat, combustion of fuel, steam generation, heat and work in the engine, properties of steam, condensing and non-condensing engines, value of expansive working, compound and triple expansion.

The construction of stationery, locomotive, and marine engines and boilers is studied, and the various types of valve motion examined.

The laboratory is equipped with a ten-horse power horizontal and a vertical engine of the same power, specially arranged for experimenting, an hydraulic friction brake, condenser, weighing tanks, indicator, etc. Practice is obtained in setting slide valve, taking indicator cards, and calculating horse-power and other data from the same, and in making efficiency tests of both boilers and engines.

Classes meet on Tuesday, Wednesday, and Thursday, from 7.30 to 9.30 p.m. during the first term.

STRENGTH OF MATERIALS

The behavior of material under strain and its resistance to tension, compression, shearing, and bending are studied, both in the class room and by direct experiment in the testing laboratory, and the principles so gained are traced to their application in building and machine construction.

Problems taken from practical cases of engineering construction are studied at each lecture. The nature of these problems is indicated by the following examples: tie-rods, stirrup-irons, cylinder-head bolts, boiler-stays, shell of boilers, brick and stone piers and walls, timber columns, strap-end keys, riveted joints, screw-threads, pulley-keys, strength of shafting, hollow shafts, beams loaded in various ways, beams of different sections, L and I beams. The laboratory is furnished with a 35,000-pound Olsen testing machine, a cement-testing machine, and a quantity of apparatus for individual experimentation.

Classes meet on Tuesday and Thursday, from 7.30 to 9.30 p.m., during the second term.

MACHINE DESIGN

The course involves study of the elements of mechanism, and considers the transmission of motion by rolling and sliding contact, by wrapping connectors, and by linkwork

Among the subjects studied are bearings, friction-gearing, belting, speed cones, effective pull and power of belts, guide-pulleys, cams, screws, worm and wheel, cycloidal and involute gear-teeth, crank and connecting-rod, eccentric, oscillating engine, parallel rod and quick return motions.

Classes meet on Monday, from 7.30 to 9.30 p.m., during the second term.

TRADE SCHOOL

The work in the trade school includes both day and evening classes. In the day classes sufficient length of time is had at continuous practice to prepare for practical work at the trades.

The evening classes aim principally to broaden and extend the training of those already engaged at the trades.

Carefully arranged courses of practical work are provided, in which the reason of each step is clearly explained, and frequent talks on methods and materials are given throughout the courses. Under such a system, time is economized to the utmost extent, and progress is necessarily rapid. The school does not aim to turn out journeymen mechanics, but to afford a training that further practice in active work will perfect.

Applicants must be between sixteen and twenty-five years of age. All courses are at least six months in length, and no applicants will be admitted later than two weeks after the beginning of the term. All tools and materials are furnished without extra charge.

The hours of session for day classes are from 9 a.m. to 5 p.m. for five days each week, and from 9 a.m. to 12 m. on Saturday; and for evening classes from 7.30 to 9.30 on Monday, Wednesday, and Friday of each week.

The outline given below, except where otherwise specified, applies to evening classes.

CARPENTRY

Practice is first given in the use of saws, planes, chisels, and laying-out tools, and is followed by a thorough course in joint-work. After this practice, a model of a frame house is made, and the different methods of framing illustrated. Afterward, partitions are set and bridged,

and floors laid. Door and window frames are made and placed in the partitions, which are sheathed, clapboarded, shingled, and corniced. Lastly, inside trimming is taken up; doors, sashes, and shutters are made and hung; wainscoting, base-boards, and stairs built, etc. Constant practice is given in the use of working drawings and in laying out work from plans.

DAY CLASS.—This class is designed for beginners, and affords a thorough training in the practice of the trade. The course is one year in length, and devotes thirty-eight hours a week to practical work. The work is similar in outline to that described above, but is greatly extended in amount and variety, and involves a large amount of practical construction. Instruction in making working drawings is also given to this class.

MACHINE WORK

Bevel, surface, and key-way chipping are first practiced, after which the class is put upon straight surface filing until ability to file straight and true is obtained. This is followed by straight, corner, round, and dovetail fitting, freehand filing, filing to templet, making calipers, square, bevel, and gauges in sheet steel, use of taps and dies, and practice in scraping.

The tool work gives practice on the engine lathe in plain and taper turning, chucking, and boring, outside and inside screw cutting and fitting; after this, exercises are introduced in hand turning, followed by varied operations on the planing-machine, shaper, drill, milling-machine, and grinding-machine. The theory of cutting-tools is analyzed and the construction of the different machines explained. The course requires two years for its completion.

DAY CLASS.—This course, which is two years in length, aims, as does that in carpentry, to prepare for active work at the trade.

Thorough and comprehensive training is given in the fundamental operations of the machinist's trade. After considerable practice upon the elementary exercises, constructive work is gradually introduced, and throughout the course the student is constantly employed upon examples of practical work. Instruction in making working drawings is also given to this class.

PLUMBING

The Journeyman Plumbers' Association of Brooklyn coöperates in the direction of these classes. At the end of a two-years' course a committee of the Association examines the members in regard to both manual skill

and knowledge of trade methods and awards certificates to those showing satisfactory proficiency, which certificates, in case of the holder afterward applying for admission to the Association, are accepted in place of the examination of like character otherwise required.

The plumbing shop is equipped for about fifty pupils, each member having a gas-furnace for melting solder, and a drawer holding a set of tools. Instruction is both practical and theoretical, lectures being given from 8.30 to 9.30 o'clock every Wednesday evening.

The manual work includes the use of tools; preparing wiping-cloths; making soil; tinning soldering-iron, brass, iron, lead, and tin; making solder; soldering seams; making cup joint, over-cast joint, straight-wiped joint, flange joint, and branch joint; working sheet lead into bends, traps, service-boxes, and safes; lining tanks; caulking iron pipe-joints; and bending with sand and kinking-irons.

The lectures deal with the material used in the trade; the proper arrangement of drain, soil, and waste pipes; trapping and ventilating the same; supply pipes; boilers; tanks; fixtures; and pumps. Charts and diagrams are freely used in the instruction, and the examples of defective plumbing illustrated in the trade journals are frequently studied. Special pains are taken to make clear the principles underlying the plumbing rules of the City of Brooklyn.

HOUSE, SIGN, AND FRESCO PAINTING

The Master Painters' Association of Brooklyn coöperates in the direction of the painting classes, and, at the end of the term, examinations are held and certificates granted with their approval.

The equipment for the house-painting class consists of screens containing doors, windows, and wainscoting; and for the fresco workers, of booths, plastered on sides and ceiling, with varied forms of cove and cornice.

In addition to these, two large rooms containing drawing-tables, as well as facilities for drawing from the cast, are provided for the advanced work in fresco-painting.

House-painting.—The house-painting course includes both elementary and advanced classes, the former having practice in the preparation of surfaces, mixing paints, and plain painting on wood, brick, and plaster surfaces; and the latter in varnishing and hard-wood polishing, polish white, gilding, lining, graining, and paper-hanging.

Lectures are given on the harmony of colors, mixing colors, proportion of oils and dryers, and the various materials used in painting.

Sign=painting.—The instruction includes preparation of surfaces, spacing and plain lettering, followed by ornamental lettering in gold and colors, and painting on glass and metal.

Fresco=painting.—This course extends over three years. Its purpose is not only to afford training in the technical practice of the trade, but also to provide for the thorough study of fresco-design.

In the first year, instruction is given in preparing walls and ceilings in kalsomine, in lining, laying out work, making and applying pounce and stencil, and putting on flat and shaded ornaments.

The next two years are devoted to a study of design, and include practice in freehand drawing, drawing and painting cast-ornament, study of historic ornament, and composition of ornament for wall and ceiling decoration.

Candidates for this advanced work, who have not taken the elementary course, are admitted only on approval of some member of the Master Painters' Association, or after giving satisfactory proof of proficiency in plain fresco-painting.



DEPARTMENT OF COMMERCE

NORMAN P. HEFFLEY, Director



RECOGNIZING the fact that business transactions enter into every phase of modern life, and that this is essentially an age in which great commercial activity prevails, the Department of Commerce was organized for the purpose of giving more thorough instruction in studies pertaining to business and commercial operations.

The courses of instruction at present are :

REGULAR COMMERCIAL COURSE	{ History ; commercial, physical, and industrial geography ; commercial law ; mechanical drawing ; political economy ; civics ; English ; bookkeeping, or phonography and typewriting.
PHONOGRAPHY	{ Business, legal, and general reporting ; English ; punctuation ; correspondence.
TYPEWRITING	{ Drill for business and general copying purposes ; spelling ; correspondence ; manifolding ; mimeographing.
BOOKKEEPING	{ All kinds of wholesale and retail business ; jobbing ; commission ; banking ; business practice.
ARITHMETIC AND PENMANSHIP	{ Interest ; percentage ; discount ; short methods ; rapid calculations.
ENGLISH	{ Grammar ; rhetoric ; correspondence ; composition.
SPANISH	{ Grammar ; conversation ; correspondence ; composition.

Lectures are given at stated intervals upon the history, development, theory, and practice of the various subjects taught in the department.

The importance of a more thorough commercial training than has heretofore been attainable to persons contemplating entering business pursuits, is more appreciated each year. In fact, the demand for persons possessing such training has become so general that great pressure is now brought to bear upon our public schools and colleges to pay more attention to commercial work. Our higher institutions are considered better able to give this instruction, for the reason that all the branches necessary to make an all-round, intelligent business man, such as languages, history, geography, chemistry, etc., can be taken simultaneously

with more strictly commercial work. It is not essential that a young man entering business be a college graduate ; but he ought to be a high-school graduate. In addition to his high-school work he should have pursued a more special course in commercial subjects. The clerk in this decade will become manager or partner in the next, and it is evident that the more thorough his preparatory training, the better qualified will he be to achieve success in the future. As is well known, the percentage of high-school graduates entering business is very small compared with those who have received only a grammar-school education, or even less. Boys are, as a rule, so anxious to leave school and obtain employment, that they think they cannot afford the time necessary to acquire a high-school education, and devote a year or two besides to commercial studies. The remedy for this is the establishment of schools to take the grammar-school graduate and give him a two or a three-years' course in combined high-school and commercial work. Our Regular Commercial Course is designed to meet this demand.

The *Certificate* of the Institute will be awarded to those students who complete satisfactorily the course of instruction in the following :

REGULAR COMMERCIAL COURSE. PHONOGRAPHY AND TYPEWRITING, COMBINED.

For further information regarding the Certificate, see page 15.

REGULAR COMMERCIAL COURSE

FIVE DAYS EACH WEEK—TWO YEARS.

FIRST YEAR.

ACCOUNTING . . .	(a) Bookkeeping, including wholesale and retail business, jobbing, shipping, commission. Or (b) Phonography and typewriting.
ARITHMETIC . . .	Interest ; percentage ; commission ; discounts ; practical short methods ; rapid calculations.
DRAWING . . .	Mechanical, for working drawings.
FORMS . . .	Mercantile : <i>i.e.</i> , invoices, receipts, notes, drafts, checks, exchange, etc.
GEOGRAPHY . . .	Physical — topographical information as to soil, climate, etc.
HISTORY . . .	United States, relating to the development of commercial relations with foreign countries.
LANGUAGE . . .	English grammar ; spelling ; punctuation ; capitalization.
LAW . . .	Commercial, regarding contracts, sales, partnerships, loans, and securities.
PENMANSHIP . . .	Plain, rapid, business hand.

SECOND YEAR.

ACCOUNTING . . .	(a) Banking, joint-stock companies, insurance, business practice. Or (b) Phonography and typewriting.
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CIVICS	Principles of local, state, and national government.
FORMS	Legal, comprising deeds, releases, contracts, bonds, mortgages, etc.
GEOGRAPHY	Commercial and industrial; productions and manufactures.
HISTORY	Imports; exports; consular and commercial reports.
LANGUAGE	English; rhetoric; correspondence.
POLITICAL ECONOMY	Principles of property, values, etc.; industrial economics; economic and tariff legislation.

The above course is divided so as to meet the requirements of those who expect to engage in business pursuits, or those who desire to become amanuenses, and to offer a normal course to those who wish to make a specialty of teaching commercial branches.

Applicants must be at least sixteen years of age, and must pass a satisfactory examination in spelling, arithmetic, geography, composition, and penmanship. Those presenting satisfactory evidence of graduation from grammar schools will be admitted without examination.

Applicants will be duly advised when to present themselves for examination.

PHONOGRAPHY AND TYPEWRITING

DAY AND EVENING CLASSES.

A practical knowledge of shorthand and typewriting is now regarded as a necessary branch of business education. Within a comparatively few years there has grown to be such a demand for shorthand and typewriting amanuenses in business houses, corporations, etc., that a new profession has been created. This demand, as well as the lack of information concerning the general educational qualifications necessary, has induced many persons to undertake the study who were not qualified to become successful in its practical application. In order to secure the best results, no student under the age of seventeen will be received, nor any one who cannot pass a satisfactory examination in composition and spelling. Only those who have taken the course in English in the Department, or those who can show a diploma from a high school, academy, or college, of recognized standing, will be admitted to the classes in phonography and typewriting, without examination.

These two studies—phonography and typewriting—although totally different in character, are so closely allied in practice that a knowledge of both is requisite, and the aim of the department is to give persons desiring to become amanuenses a thorough and practical training in these branches. A special feature is made of intelligent revision of poorly-dictated sentences; also of punctuation, capitalization, paragraph-

ing, itemizing, and the dictation of matter bearing upon stenographic work, as regards neatness, proficiency, perseverance, intelligence, and common-sense business ways and courtesy. In fact, stenography and typewriting comprise about two-thirds of the intelligent work of the course, and careful students find themselves strengthened in many subjects in which they may have been inefficient on entering the department.

The time required to become proficient depends upon the ability and diligence of the student. Close application for nine months is usually required to fit one to fill satisfactorily a position as a shorthand and typewriting amanuensis.

We do not guarantee positions for our pupils, but comparatively little difficulty is experienced by our graduates in securing employment, while we have more applications for young men than we are able to fill.

Certificates will be granted to pupils who have satisfactorily completed the full course; who can neatly and correctly copy new matter on the typewriter at the rate of forty words per minute for five consecutive minutes; and who can write in shorthand, at the rate of one hundred words per minute for five consecutive minutes, matter which has not been previously written by them, accurately transcribing the same at once.

Day and evening instruction is given in both phonography and typewriting. Evening students can pursue but one study at a time; day pupils may take both, although it is not generally advisable for them to take typewriting at the same time that they are pursuing the elementary grade in phonography.

EXAMINATIONS for phonography and typewriting: Fall term, Wednesday afternoon, September 20, at 3 o'clock, for day classes; Friday evening, September 22, at 7.30, for evening classes. Winter term, Tuesday evening, January 2, 1894, at 7.30, for both day and evening classes; Spring term, Monday afternoon, April 2, 1894, at 2 o'clock, for day classes.

Phonography.—The system taught is known as the Benn Pitman system—arranged especially for pupils of the Institute—and is divided into three grades: elementary, intermediate, and advanced. Each grade covers a term of three months. Three lessons per week are given in each grade, and they are of sufficient length to necessitate considerable study outside of class hours. Frequent reviews and examinations are given, and all work of students is examined. Persons desiring to enter the intermediate or advanced grades must be students of the Benn Pitman or Graham systems, and must show by passing a satisfactory examination in the work of the preceding grade or grades that they are fitted to enter the class for which they have applied.

Elementary grade.—This grade is sufficient for the attainment of a thorough knowledge of the principles of phonography.

The work is divided as follows :

- Consonants and their combinations.
- Long vowels, and the method of writing *l* and *r*.
- Short vowels and diphthongs.
- Position and abbreviation.
- Circle *s* or *z*.
- Semi-circles *w* and *y*.
- Aspirate *h*, and *ist* and *ster* loops.
- Phraseography.
- L* hook and its special vocalization.
- R* hook and its special vocalization.
- N* hook.
- F* or *v*, and *shun* hooks.
- Halving principle.
- Doubling principle, and prefixes.
- Affixes.

In connection with the above, the word-signs which are formed from the characters and their modifications, as explained in the respective lessons, are taught ; and practice is given in writing, from dictation, sentences demonstrating these principles and word-signs. Students are required from the beginning to read back all matter taken by them from dictation. Oral and written examinations are frequently given.

Day classes meet on Tuesday, Wednesday, and Friday.

Evening classes meet on Tuesday and Friday.

The hours of session for the day classes are from 2.00 to 4.00 p.m., and for evening classes from 7.30 to 9.30.

Intermediate grade.—Instruction in this grade consists of a thorough review and amplification, where necessary, of the previous grade, especially of the word-signs ; together with a thorough and systematic drill in

- Words distinguished by difference in outline.
- Contracted words.
- Contracted phrases.
- Words of frequent use.
- Outlines for cities, states, and proper names.

The ground covered embraces dictation in general business correspondence relating to all kinds of wholesale and retail business, which the student is required to read back at once from his notes. Familiarity with correct shorthand forms is also promoted by means of a Phonographic Reader.

Day and evening classes meet three times per week. The hours of

session for the day classes are from 10.00 a.m. to 12.00 m., and for evening classes, from 7.30 to 9.30.

Advanced grade.—This grade is devoted to a systematic drill in writing from dictation, business correspondence, legislative, literary, and general matter ; including hundreds of business letters containing technical expressions relating to insurance, banking, railroading, electricity, mechanics, publishing, and literature ; dictation and elucidation of law matter, embracing briefs, descriptions of land, testimony, contracts, charges to juries, etc. In pursuing the course, the students are required to understand the meaning of all technical terms occurring in matter dictated or copied. This is accomplished by means of explanations in class, and the necessary consultation of dictionaries and books of reference.

In this grade, special attention is paid to speed practice, and to the proper transcription of matter as to form, capitalization, punctuation, and expression.

Day and evening classes meet three times per week. The hours of session for day classes are from 10.00 a.m. to 12.00 m., and for evening classes, from 7.30 to 9.30.

Typewriting.—The opinion is somewhat prevalent that all that is required to enable one to fill a typewriter's position is a knowledge of the keyboard, and a little practice in writing. While this may have been partially true a few years ago, the demand upon typewriters has become more and more exacting, requiring increased speed, greater accuracy, and more intelligence on the part of the operator ; consequently a more thorough and general training is now necessary.

Instruction is given on the Remington machine, although students are taught to operate any of the standard machines desired. Humphrey's Manual of Typewriting is used as a text-book, and is supplemented by other works and by specially arranged material.

The day course in typewriting can be accomplished in one term, and as personal instruction is given, each student advances as rapidly as his ability permits.

COURSE OF STUDY.

Location of letters.

Proper fingering and evenness of touch.

Graded exercises in words.

Commercial, legal, and legislative phrases.

Business correspondence, headings, titles, addresses, etc.

Spelling, punctuation, capitalization, etc.

Letters and circulars relating to all kinds of transactions.

Miscellaneous forms of reports, receipts, bills, etc.

Legal forms and testimony.
Architects' specifications for all classes of construction.
Regular exercises in spelling from dictation.
Miscellaneous exercises in writing from dictation.
Technical expressions and abbreviations.
Speed exercises.
Copying from manuscripts.
Transcription of shorthand notes.
Manifolding and mimeographing.
Letter-press copying.
Exercise in writing without looking at the key-board.
Mechanism, adjustment, and care of machine.

The above course is divided into a regular daily routine, and students are required to perform neat and accurate work at all times.

Morning and afternoon classes meet daily, except Saturday. The hours of session are from 9.00 a.m. to 12.00 m.; and from 1.00 to 4.00 p.m. respectively. Evening classes meet Monday, Wednesday, and Friday. The hours of session are from 7.30 to 9.30.

For dates of entrance examinations, see "Phonography and Type-writing," p. 84.

BOOKKEEPING

THREE EVENINGS EACH WEEK.

The science of bookkeeping or accountantship in its broadest sense is the basis of all business education. Arithmetic, commercial methods, penmanship, and language are but necessary auxiliaries. The importance of this work has led to the establishment of classes in which the principles of the science and their application are thoroughly taught.

The instruction in bookkeeping includes the fundamental principles of debit and credit: thorough drill in journalizing, posting, the analysis of accounts, detecting errors in trial balances, short methods in interest, discount, multiplication, etc., rapid addition, and computations generally.

The aim is to give a comprehensive understanding of the systems of double entry books required in different kinds of wholesale and retail business.

The course embraces the following:

SETS OF BOOKS USED IN

Dry goods.
Groceries.
Coal.
Lumber.
Jobbing.
Shipping and commerce.

THE USE OF

Day-book.
Journal.
Ledger.
Cash, sales, and bill books.
Check, bill, and invoice books.
Special columns.

PRATT INSTITUTE

Installment business.
Corporation.
Manufacturing.
Banking.

Checks and drafts.
Promissory notes.
Invoices and receipts.
Legal forms.

Single entry is taught in its relation to double entry. It is not expected that a few months' study will make expert bookkeepers of the students, but the course is intended to lay a broad foundation for future success. Classes are limited in size, and except in special class-drills, individual instruction is given. As a large amount of work can be done outside of class hours, each student may advance as rapidly as his ability and circumstances will permit. Students who possess a fair knowledge of arithmetic, spelling, and reading, and who write a good business hand, can usually, by regular attendance and earnest effort, complete the course in three terms. Persons who desire to enter the class in bookkeeping, but who are deficient in preparatory studies, may take the course in arithmetic and penmanship, and enter the bookkeeping class as soon as proficient.

Applicants for the bookkeeping classes must be at least sixteen years of age, and must pass a satisfactory examination in arithmetic, penmanship, and spelling.

Classes meet Monday, Wednesday, and Friday evenings. The hours of session are from 7.30 to 9.30.

Examinations for the first term classes will be held Friday evening, September 22, 1893, at 7.30, and those for the second term will be held Tuesday evening, January 2, 1894, at 7.30.

ARITHMETIC AND PENMANSHIP

TWO EVENINGS EACH WEEK.

The instruction in arithmetic begins with a review of addition, subtraction, multiplication, and division.

The course includes

Interest.
Fractions.
Decimals.
Denominate numbers.
Percentage.
Profit and loss.
Partnerships.
Exchange.
Stocks and bonds.

Commission.
Invoicing.
Trade discount.
True discount.
Banking and bank discount.
Partial payments.
Insurance.
Taxes.
Equation of accounts.

These subjects are presented from a business standpoint, and, by reason of the short methods employed, are especially valuable in securing ease and rapidity in computations.

The importance of good penmanship in all departments of commercial life is recognized, and this subject is taught in a practical manner, with a special view to acquiring a good business hand. In connection with penmanship, written exercises are given in spelling, accompanied by exercises in oral definition, etc.

Classes meet Tuesday and Friday evenings. The hours of session are from 7.30 to 9.30.

ENGLISH

TWO EVENINGS EACH WEEK.

The purpose of this course is to promote accuracy and ease in the use of English. The work is planned both for those who find their knowledge of the language deficient, and for those who wish to gain better command of its resources, to correct their pronunciation, to enlarge their vocabulary, to develop style under the guidance of instruction, and to subject their minds to a constant and rigid discipline. The value of the study as an educational drill, is not lost sight of in the endeavor to make the results of practical service in life.

The study of the elements of grammar is closely associated with training in composition, so that principle and application, theory and practice, go hand in hand. The instruction begins with the simplest forms of language, and includes the commoner of the most difficult syntactical relations. These are presented by means of text-books and notes specially prepared to meet the needs of the class. The composition work consists of descriptions of familiar objects, of narratives of events personally observed, of arguments that call for originality, and of letters of business and friendship. From time to time half-hour extracts are read from the best authors, the substance of which is presented in the student's own words, either orally or in writing, at a later session.

As the basis of the work, a simple system of diagramming has been adopted. This analytical work is continued through the year, and is especially helpful in developing the functions and relations of the various parts of speech, as actually employed by the students themselves and by the masters of the language.

For the sake of developing readiness and self-command, the course in composition includes the practice of writing in the class-room without previous preparation, but upon familiar topics.

Grammatical and rhetorical errors are corrected as they present themselves.

COURSE OF STUDY.

GRAMMAR.

Nouns.
Verbs — their uses in the sentence.
Subject and predicate.
The simple sentence.
The elements of diagramming.
Adjectives.
Verbs — their inflections.
The punctuation marks.
Prepositions.
The simple phrase.
Pronouns.
Participles.
Adverbs.
Conjunctions.
Complex sentences.
Compound sentences.
The theory of punctuation.
The theory of diagramming.
Varieties of phrases.
Varieties of clauses.
Verbs — the functions of the modes.

COMPOSITION.

Simple descriptions.
Extemporaneous writing.
Theory of description.
Narratives.
Notes on derivation of words.
Paragraph structure.
The nature of a composition.
The laws that are true alike of sentences, paragraphs, chapters, etc.
Outline of arguments.
The comparative values of the various forms of sentences.
The more frequent figures of speech.
Clearness, force, and elegance the standards of criticism.
Style.

Students are admitted to the second term upon passing a satisfactory examination in the work of the first term.

Classes meet Monday and Wednesday evenings. The hours of session are from 7.30 to 9.30.

SPANISH

TWO EVENINGS EACH WEEK.

By reason of the present and prospective development of trade relations between the United States and the Central and South American countries, instruction is given in the Spanish language, which in this country has not yet received the attention which its commercial importance requires.

There seems to be a demand for fairly-educated young men and women who are able to correspond and converse in Spanish, and who are thus better qualified for positions as salesmen, correspondents, and clerks. There is also a demand for stenographers who are able to take dictation in Spanish, and such as have acquired a knowledge of that language can readily make their shorthand available for dictation purposes.

While the course of instruction is more especially designed for commercial use, yet it is sufficiently comprehensive for the literary and general student. The natural method is employed. This is supplemented by all necessary grammatical drills, while constant practice is given in conversation, reading, and writing.

The course of study embraces :

- Pronunciation of the alphabet.
- Drill in sounds difficult to the English tongue.
- Pronunciation of diphthongs.
- Accentuation.
- Importance of accents in determination of tenses.
- Capitalization.
- Comparison with English capitalization.
- Nouns.
- Gender indicated by termination.
- Difficulties in relative and objective pronouns.
- Verbs, regular and irregular.
- Pronouns indicated by form of verb.
- Corresponding restriction of pronouns.
- Relative positions of different parts of speech.
- Comparison of the same with English construction.
- Commercial correspondence.
- Extemporaneous writing, with conversational exercises.

No entrance examination is required, but some knowledge of English grammar, on the part of the applicant, is necessary for satisfactory advancement in the study of Spanish. Students are accepted only in September, at the beginning of the first term, unless they have sufficient knowledge of the language to enter in a succeeding term. But all students entering subsequent terms must pass an examination on the work of the previous term.

Classes meet Tuesday and Friday evenings. The hours of session are from 7.30 to 9.30.



DEPARTMENT OF KINDERGARTENS

HANNAH D. MOWRY, Associate Director



THE aim of this department is to give general and special training to all those, whether mothers, teachers, or kindergartners, who expect to have the care of children, and who desire to study Froebel's theories as applied to their education.

The Regular Course extends throughout two years, and aims in that time to prepare students for work as practical kindergartners. This course includes all that is necessary to fit the teacher for her profession theoretically, and strives to prepare her to become an ideal for the child to imitate.

Special courses are arranged for teachers who wish to become acquainted with Froebel's principles ; for mothers who realize the necessity for greater insight in the training of their children ; and also for young women who desire larger opportunities for general culture, and who feel that the kindergarten training meets their needs.

The *Diploma* of the Institute will be awarded to those students of breadth of thought and training who complete, with entire satisfaction, the work of the NORMAL KINDERGARTEN COURSE.

For further information regarding the Diploma, see page 15.

REGULAR COURSE

FIVE DAYS EACH WEEK—TWO YEARS.

As every industry, and all arts and sciences, have had their rise in the instincts of the race, their earliest development naturally finds its place in the kindergarten. To understand these beginnings, the teacher must have an extended knowledge of their possibilities. This necessitates the study of art, of history, of science, as well as of man's industrial work. All these branches are included in the training course, as well as Froebel's theory of their relation to the child.

COURSE OF STUDY.

FIRST YEAR.

THEORY	Mutter und Koselieder. Its application to the Gifts, Games, and Occupations.
GIFTS	Theory and practical work.
OCCUPATIONS	Pricking, Froebel drawing, sewing, intertwining, weaving, folding, parquetry, cutting, peas-work, card-board and clay-modeling, color and form work.
STORIES	Old stories retold and adapted.
GAMES	Practical work in class with children.
DRAWING	Froebel drawing; simple instrumental, freehand, and blackboard work.
SCIENCE	Fundamental principles of biology, botany, and zoology.
MUSIC	Tonic Sol-fa notation and principles of harmony. Practical work in the kindergarten songs.
PHYSICAL CULTURE	Delsarte principles applied to kindergarten games.
LECTURES	Unusual opportunities are offered in the lectures which are given during the year by prominent educators from all parts of the country. History of Education, General Kindergarten Subjects, History of Art.
PRACTICE	In addition to the general theory and class-work, the students practice in the kindergartens of the Free Kindergarten Association, thus having opportunities of putting into practice under experienced kindergartners the theories they receive during their afternoon lectures.

Regular collateral reading is assigned during the year, the library of the Institute furnishing the books recommended.

SECOND YEAR.

ADVANCED WORK IN THEORY	Mutter und Koselieder continued. Education of Man. Psychology.
GIFTS AND OCCUPATIONS	Continued.
STORIES	Work of first year continued.
GAMES	Practical and original work.
DRAWING	Freehand, blackboard work continued, sketching.
SCIENCE	Special work in study of crystals. Physical care of children.
MUSIC	Harmony continued. Voice culture emphasized.
PHYSICAL CULTURE	Continued.

In the practice work, the students will be thrown more upon their own resources than during the first year, thus developing as far as possible the spirit of independent and creative work.

REQUIREMENTS.—Any person wishing to enter the Regular Course must be at least eighteen years of age, and must have some knowledge

of music and geometrical drawing. She should be able to present a certificate of High School training or its equivalent. Applicants will be expected to pass satisfactory examinations in the common English branches, general history, and literature, and the fundamental principles of geometry. These examinations will take place in June and September. A notice of the exact date will be duly sent to all who have made formal application, either in person or by letter.

For the special courses no written examination is necessary.

SPECIAL CLASSES

These classes are arranged to meet the needs of kindergartners, teachers, or any others desiring but a part of the training. The course of study may extend throughout one or two years, at the option of the student.

The Mothers' Classes meet once a week, and have work both theoretical and practical that pertains to the application of the Kindergarten in the home. This includes the study of the Games, Gifts, Hand-work, Songs, Mutter und Koselieder.

ADVANCED SPECIAL CLASS

A class for the study of Froebel's Mutter und Koselieder also meets weekly. In this book Froebel has given the practical demonstration of his idea of unity in education. In this study the teacher or mother gains her insight, and sees how, with each seeming trifle, the education of the child progresses and his powers are strengthened. It is of equal value to both, as the mother, through this study, better understands the teacher's aim, and the teacher can see her principles as they apply in the home-training.

FREE KINDERGARTENS

There are at present eight Free Kindergartens, in which the students do their practice work. The experienced kindergartners who have charge of these several kindergartens meet once a week to receive instruction in programme-work and discuss the various questions which have arisen. In this way the work can be unified, and hence strengthened.



FREE PUBLIC LIBRARY

MARGARET HEALY, *Director*



REGARDED in the light of an educational force, the public library has a responsibility second to none. It should encourage a taste for good reading in children, thoroughness of investigation in students of all classes, and discrimination in reading for entertainment on the part of general readers. It should inspire its own working force with the desire to be of service, and should keep out of professional ruts.

When the Institute was founded, it was intended to establish a library solely for the use of Institute members, and to confine its selections chiefly to the fine and useful arts. It was afterwards decided, however, that the library should have a much wider scope than this, and that, in order that its influence might be as far-reaching as possible, it should be general in character, fairly representing the following classes: bibliography, philosophy, religion, sociology, philology, science, useful arts, fine arts, literature, biography, history, travels.

There are, at present, about 40,000 volumes upon the shelves, special pains having been taken to comprise in this number the best literature on all subjects. These volumes include the nucleus of a collection of French and German books, now numbering about 2,000 of each, which are meeting an appreciative demand.

The demands upon the library are unusually great, since it occupies two fields,—that of a free reference library designed as a work-room for the public, and that of a free circulating library from which all classes may draw good material for study and entertainment. Its privileges are granted free of charge, children under fourteen years of age being restricted to books specified in the Children's List.

The directors of the departments of the Institute aim to supplement their instruction by recommending to students lines of reading bearing upon the subjects in hand, and to encourage them as much as possible to make free use of the Library.

Many of the books most frequently needed for reference are shelved in the rooms of the various departments of the Institute, so as to be easily available. These books are duplicated in the Library for the use of the public.

The reading-room is large, comfortable, and well-lighted. Periodicals and newspapers are kept on file for the accommodation of readers, over two hundred of the leading American, English, French, and German magazines and papers being represented. More than 39,000 visits have been made to this room during 1891-92.

The Reference department, comprising dictionaries, encyclopædias, etc., to the number at present of about nine hundred, is so arranged that those wishing to consult these books have free access to the shelves. It is especially desired that this department should be useful and helpful; and to that end, it has been put in charge of assistants competent to guide the investigator in the best methods of looking up a subject, and to aid him by placing the resources of the Library at his disposal. To facilitate the accomplishment of this object, the sets of periodicals in the Library to which reference is made in Poole's Index, and government publications, home and foreign, are placed in the reference-room so as to be readily accessible to the public. The reference-room is open every week-day evening, and an assistant is in charge. Artisans and others who may wish to read on subjects of particular interest to them, and who have only evening hours for the purpose, are especially welcome to this department, which is strong in technical reference-books. Authors or scholars engaged in special lines of literary work may have added privileges granted them to a reasonable extent, if notice of their needs be sent to the librarian. There has been an attendance of 15,500 in this room during 1891-92, and over 8,000 volumes have been brought in from the stack-room for consultation.

In view of the constant use of the Library by students of the Institute High School, occasion is taken early in the fall term to acquaint each section of the Freshman class with the arrangement of the Library and with its methods of working, so that its resources may be the sooner available.

The scheme of classification used by the Library, the use of the index to this classification, the plan of the card-catalogues and class-lists, and their use, are all included in this general explanation. There is also a course of lectures on prominent books of reference, to which the High School students have admission.

Lists of books on various topics connected with class-room work are prepared from time to time, and bulletined where they may be of service to those who feel inclined to pursue further the subjects they are studying.

Pupils of the public and private schools of the city have made free use of the Library, and special efforts have been made by those in charge

of the reference department to render assistance in looking up matter pertaining to subjects assigned for essays, or to topics that arise in connection with the work of students.

Extra privileges have been granted to teachers by which they are entitled to one volume (not fiction) in addition to the one already allowed on their personal cards, and to six books for school-room use. It has also been thought advisable to permit persons staying in the city for a month or longer to draw books, provided they can furnish Brooklyn guarantors.

Membership and circulation.—More than 17,000 persons have taken out cards of membership entitling them to draw books, and during the year 1891-92, 173,594 books were circulated.

Catalogues.—An author-and-title card catalogue of all the books upon the shelves of the Library is placed in the delivery-room for consultation by the public. In this catalogue the biographical cards are arranged in a separate alphabet, according to the subject of the biography. An official catalogue is also kept. Both catalogues are made in accordance with the American Library Association rules and are written in the library hand. A pamphlet catalogue on cards is kept in the reference department, and may be consulted at any time. Typewritten class-lists, arranged by subjects, are placed upon the tables in the delivery-room, and are revised and rewritten from time to time, so that they may be kept up to date. A subject-catalogue, on cards, is now in preparation, and will probably supersede these lists. The system of classification used is that known as the Dewey classification. As the Library is adding new books rapidly, it is not thought advisable to issue at present a general printed catalogue. A finding-list of the fiction of the Library, arranged by authors and titles in one alphabetical series, has been printed, however, and is sold to borrowers of the Library for a nominal sum. A Children's List has also been prepared, pains being taken to select only the best books of the best authors; and children under fourteen years of age receive borrowers' cards on condition that they draw books from this list. The books in the Children's List are grouped in chronological order, according to the subject treated, the best illustrated and most tastefully bound editions having been selected. The object in preparing these lists is to create in the child a correct literary taste, so that he may learn to discriminate for himself between good and poor reading. The Pratt Institute Monthly contains in each number a Library Bulletin, consisting of a list of the accessions of the past month, classified by subject and accompanied by the call-numbers of the books. These lists

can be put together by the subscriber, and so form in time a printed classified catalogue of accessions.

Library hours.—The Library is open daily from 9 a.m. until 6 p.m., and on Wednesday and Saturday evening until 9.30. The reading-room and reference-room are open from 9.00 a.m. to 9.30 p.m. on all week-days.

LIBRARY CLASSES

In pursuance of a belief that workers in an educational field should be trained workers, a class in cataloguing was organized in June, 1890, followed in October by a class in library economy. In these, no comparative study of methods is undertaken, only those in use in this Library being taught.

The cataloguing class is distinct from the training class, but both branches may be included in the winter's course by students who wish to take both. Instruction in cataloguing is given on Monday, Wednesday, and Friday morning, from 11 to 12, with a practice hour from 12 to 1; and in library economy on Tuesday, Thursday, and Saturday morning, from 9 to 1, and on the alternate days from 9 a.m. to 12 m. The hours from 2 to 4 on Saturday are occupied by typewriting lessons for both cataloguing and training classes. In addition to the cataloguing, instruction in which will hereafter include the dictionary system, the class in that branch has several lessons each in accession-work, shelf-listing, and classification, all given by a member of the library staff. The instruction in library economy, also in charge of members of the staff, covers the following subjects:

Registration of borrowers.

Order department work.

Accession-work.

Classification.

Finding-list rules.

Alphabeting.

Shelf-listing.

Mechanical preparation of books for the shelves.

Practical charging-system work.

Stock-taking.

Binding and rebinding.

General literature	{	Oriental.
		Classical.
		Modern Continental.
		English.
		American.

English composition.

Reference work.

Bibliography.

Care of statistics.

Typewriting.

Entrance examinations for the library class will be given September 16, 1893, from 9 a.m. to 12 m., for the cataloguing class, and from 2 to 5 p.m. for the training class, the term to begin Monday, October 2.

The class in general literature, mentioned in the training class courses, is open to the public. Talks are given on the history of litera-

ture, and lists of collateral reading are supplied to the class. The books referred to in these lists are kept in the reference-room, in a special case, for a reasonable length of time, and treated as reference books. Readings from the authors under discussion are also given, which are open to the public.

The course of lectures on books of reference, given on Monday afternoons, from 3.30 to 4.30, is also open to all members of the Institute and to the public. In this class descriptions are given of the leading works of reference, enabling students and teachers to become familiar with their appearance and the general character of their contents, and to gain some idea of the comparative value, as authorities, of the various atlases, encyclopædias, dictionaries, and other works which are free for consultation in the reference department of the Library.

Each of the courses, training and cataloguing, covers a period of six months, with an apprenticeship term of practical work from April to June, inclusive, for those whose progress warrants the privilege.

During the apprenticeship term, while the students are giving an average of 24 hours per week to work in the Library, a series of talks on libraries is given, in order to acquaint them with the field of work in general, the history of the profession, the specialties of the leading libraries, etc. It has also been the practice during this term to engage some one from a bindery to give practical lessons in repairing books.

For the benefit of those students who come from other parts of the country and who are not familiar with New York and Brooklyn, an effort is made to give them an acquaintance during this term with the prominent institutions and features of interest of the two cities, that the educational value of a residence so near the metropolis may not be lost. A series of routes for sight-seeing is made out for them, with the days and hours of opening of various galleries and museums, and a list of lunch-rooms and restaurants that may be visited by ladies without escorts. It is the intention to prevent the student, by these and all other available means, from falling into the habit of regarding his or her work as something mechanical having no connection with the outside world, and, once learned, not to be improved upon.

The *Certificate* of the Institute will be awarded to those students who complete satisfactorily the course of instruction in the following :

LIBRARY TRAINING COURSE, INCLUDING LITERATURE AND
CATALOGUING.

For further information regarding the Certificate, see page 15.

Applicants for the library courses should present their applications at least one month in advance of the term-opening.

Nearly all the pupils of the past year have put their training to practical test, and have taken positions in other libraries. Among the permanent positions filled have been two in Columbia College Library, one in the New York Free Circulating Library, one in the Free Public Library of Braddock, Pa., one in the Y.M.C.A. Library of Brooklyn, one in the Union for Christian Work, Brooklyn, and one in the Adelphi Academy, Brooklyn; while temporary work has been done at Scranton, Pa.; Vassar College, Poughkeepsie; the Aguilar Library in New York City; Bay Ridge, L. I.; Princeton College, New Jersey; Norfolk, Conn.; and Packer Institute, Brooklyn; in addition to positions filled and work done in our own Library.

The school is in no sense a competitor of the Library School at Albany, the official school of the American Library Association, but aims to meet a different need, that of trained assistants in the public libraries of the country and of trained librarians for the small libraries in towns and villages. Every encouragement is given to those who seem adapted to the work to continue, at some future date, their library training in the official school, in order to secure the higher positions and broader fields of work they would then be justified in expecting.

ASTRAL BRANCH

74 INDIA STREET.

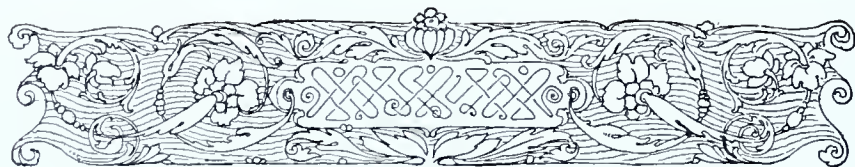
On March 4, 1890, a branch library was opened in the Astral apartment house, on Franklin, Java, and India Streets. Books are now given out from this branch directly, from its collection of over 2,000 volumes, and are also delivered each day from the main library to the branch for the use of borrowers living in that part of the city. In connection with this library is a spacious, well-ventilated, and well-lighted reading-room, 39 x 40 feet, which is heated by steam and lighted by electricity.

The Astral reading-room is supplied with the leading periodicals and works of reference, and has a steadily increasing attendance, now amounting to about 1,900 persons. The circulation in 1891-92 was 27,800 volumes, and 23,800 visitors availed themselves of the privileges of the reading-room.

A card-catalogue of authors, titles, and subjects is in preparation by the assistants at the branch, and lists of the works in the main library are kept on hand. The Branch is open from 2 to 9 p.m.

Delivery Stations.—For the purpose of stimulating local associations to organize and carry on free reading-rooms and libraries in the city, and in response to requests from residents, the institute has opened a delivery station in the free reading-room located at 754 Driggs Avenue, where books are returned and given out every evening except Tuesday.

It is the desire of the Trustees of the Institute to coöperate by means of the above plan with all who are interested in the spread and development of free libraries in the city of Brooklyn.



DEPARTMENT OF MUSEUMS

J. FREDERICK HOPKINS, Associate Director



THE collections of Pratt Institute include groups of objects illustrating all those technical processes which have as their ends the production of artistic as well as of useful articles ; also such examples of the completed products as may serve to teach the student what has been done, and to indicate to him what may be achieved in any department of science and art.

As far as the artistic side of such a collection is concerned, there is no limit to the possibilities of its growth. It may be continually receiving additions in the way of new productions, or of newly acquired old ones, each of which, as long as it is truly good of its kind, adds a little to the value and interest of the collection. On the other hand, the technical part of the Museum is confined within comparatively narrow and well-defined limits, and its growth beyond a certain point is entirely dependent upon the progress of science in the various branches represented. A brief glance at the collection, as it now stands, shows to what extent these ideas have already been carried out, and what still remains to be done.

The Museum at present occupies the fifth floor of the Main Building, and is divided into two portions—the inorganic and the organic. These divisions are further subdivided according to the individual importance of certain materials. Thus the collections assume the following natural divisions :

- A. *Inorganic substances*,—iron, copper, silver, gold, nickel, etc.
- B. *Ceramics*.
- C. *Glass*.
- D. *Building and decorative stones*.
- E. *Reproductive processes*.
- F. *Organic compounds*,—wood, leather, ivory, etc.
- G. *Textile fabrics*,—silk, cotton, wool, linen, embroidery, laces, etc.

In the middle of the main room are placed a number of horizontal cases containing a collection of minerals, which represent principally the ores, and form the groundwork on which the rest of the collection is

based. The minerals are arranged according to the Dana system of mineralogy, and are interspersed with a set of models of crystals, in such a way that any one wishing to study them from a theoretical point of view finds it a comparatively easy matter.

The specimens in the vertical cases along the sides of the room are classified according to the elements which form their principal constituents, and these elements themselves are in turn collected into natural groups; thus, the first case contains that most useful of all metals — iron, — and is so arranged that a student, by reading the label placed with each specimen, can easily follow the metallurgy of this element from the ores, fuels, and fluxes with which the blast-furnace is charged, through the intermediate product — pig-iron — to the commercial article, whether it be by way of the cupola to cast-iron, by way of the Bessemer converter to steel rails, or by way of the puddling-oven to wrought-iron bars. Under each of these divisions the minor variations in manufacture are exemplified in detail, and the finished products of each class are represented by a few characteristic specimens, selected from the countless number of articles included under each head.

The artistic applications of iron and steel have as yet been treated only in connection with their technical production, but they will be fully represented by a large number of specimens selected to illustrate various artistic conceptions, irrespective of their methods of manufacture.

Last of all, there are placed in this same case a small number of specimens, comprising the commonest chemical preparations which are made from iron, and which find their applications in every-day processes. By placing these in direct connection with the metal from which they are made, it is hoped that their relations to that substance may be indelibly impressed upon the student.

In the treatment of other metals much the same arrangement is followed, the only variations being due to differences in the nature of the materials under consideration. So, for example, under copper, besides the various forms of cast, rolled, drawn, beaten, stamped, and electrolytically deposited metal, its alloys with zinc, tin, nickel, and aluminium, in the form of brass, bronze, German silver, and art gold-bronze, must be described and illustrated. In this metal, as in the preceding one, the artistic side is capable of very wide extension, and, especially in the case of the bronzes, it is almost inexhaustible.

Many metals do not directly admit of artistic application, but it often happens that some of their compounds are of the utmost importance; thus, aluminium has only a very limited application in its metallic form,

and silicon has none whatever ; and yet they combine to form kaolin and clay, without which the manufacture of brick, earthenware, stoneware, and porcelain would be impossible.

The lower end of the room is occupied by a collection of pottery and glass, so arranged as to give an idea of the way in which the various classes are grouped together and connected with each other. Under the various divisions the productions of each country are collected and arranged chronologically, and as far as possible the materials and tools used in the course of manufacture are placed with the finished specimens.

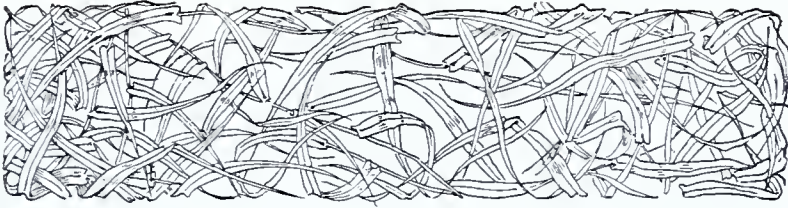
The collection of organic material is placed on the opposite side of the room, and aims, in the same way as the inorganic, to teach the student by means of the sense of sight how a finished article is gradually developed from the crude material.

In the textile fabric collection, the artistic side becomes more important than the technical, although even here the technology of the preparation of the material for the making of the thread, and the subsequent weaving of the latter into cloths of various textures, is treated as thoroughly as possible. The aim of this collection is to represent the productions, in the way of cloth, embroidery, and design, of the various countries of the world, and at the same time to indicate, by means of antique and modern specimens, the gradual evolution of art in each country. It is hoped that in this way the students may learn, by comparing the old with the new and the inferior with the better, what pieces of work really possess artistic merit, and may also acquire a knowledge of styles and designs which will be of use in original designing and other work which may be required of them.

At the present time the Museum contains about seven thousand specimens, and new articles are continually added. It is open to the public three times a week, as follows :

MONDAY	7.30 to 9.30 p.m.
WEDNESDAY	3 to 5 p.m.
FRIDAY	7.30 to 9.30 p.m.

As occasion offers, the various instructors of the Institute take their classes to the Museum for the purpose of demonstrating the subject upon which they have been working, and it is in this way that the collections are to be used to the best advantage. Besides this, on application to the General Office, students of the Institute may obtain permission to go to the Museum at any time for the purpose of studying a particular branch or subject in which they may be interested.



THE THRIFT

J. HOLLIS GIBSON, Assistant Manager



THE object of The Thrift is to promote habits of frugality ; to encourage people, especially the young, to become prudent and wise in the use of money and time ; to place habits of thrift and economy in strong contrast with habits of thriftlessness and extravagance ; to assist people to buy homes for themselves, and to this end to encourage the use of coöperative banks, and building and loan associations, when they are managed for the good of the people ; to foster the use of savings-banks, trust companies, or institutions where the savings of the producing class can be safely deposited ; also, to do all such things as experience shall prove to be essential to the accomplishment of these ends.

For the purpose of developing and carrying out the above objects, an Advisory Council has been appointed, whose duty it is to supervise the conduct and the extension of the work undertaken by The Thrift. This Council does not, however, assume any financial responsibility, or have any personal interest to serve aside from the general object of The Thrift, as defined in the rules and by-laws which govern it.

In conformity with the above principles, The Thrift is organized, and is designed to aid in the work carried on at Pratt Institute. It is not, however, conducted by the Institute, nor is the Institute responsible for it.

Charles Pratt & Co. act as the bankers of The Thrift, and they are personally responsible for all obligations contracted under our rules and regulations.

BENEFITS

Any person, whether connected with Pratt Institute or not, is entitled to the benefits of The Thrift upon complying with the regulations, with the understanding, however, that the management may refuse to accept any account or at any time have full power to limit or to close an account, by giving notice at the last known place of residence of the depositor. Upon giving such notice interest shall cease.

Accounts may be held by minors ; by trustees and guardians on behalf

of others; and by married women in their own names, and for their separate use; and they may sign receipts for interest and principal.

The work of The Thrift divides itself into three branches: the INVESTMENT BRANCH, the DEPOSIT BRANCH, and the LOAN BRANCH. Persons may avail themselves of the privileges of any branch without becoming identified with the others.

INVESTMENT BRANCH

The Investing shares of The Thrift, to which no liability attaches, are \$150, payable at the rate of \$1 per month for ten years. The monthly payments on each share amount in ten years to \$120, and the accumulated interest at the rate of five per cent. per annum to \$30, making \$150 in all; in addition to which, provided the installments are regularly paid, each share, at the end of the ten years, will be entitled to a premium of \$10. In other words, a monthly payment of \$1 will amount, with interest and premium, to \$160 at the end of ten years, or about six per cent. per annum on the subscription paid to The Thrift.

\$150 in one sum pays up a share in full, and when this payment has been made, the interest is payable half-yearly, at the rate of four per cent. per annum. If the interest is not withdrawn it will be added to the principal. At the end of ten years each share will be entitled to the same premium as that receivable upon shares paid by installments.

Payments on account of shares by installment draw interest from the first day of the month following the date of deposit. A fine of two cents a share per month will be charged on overdue payments. Shares on which dues are more than six months in arrears will be held, without interest, for withdrawal.

Applications for investment must be made on a blank form, at the office of The Thrift. The investment fee is fifty cents, payable with the application. New shares may be taken at any time.

Accounts may be withdrawn at any time; and although The Thrift may, under its rules, require one month's notice, it repays subscriptions on demand, and without notice. No interest will, however, be allowed on shares payable by installments if they be withdrawn within two years of their issue.

TABLE SHOWING HOW MONEY MAY BE ACCUMULATED.

One share at \$1.00 per month, involving a saving of 4 cents per day for 300 days, amounts, with interest and premium, at the end of ten years, to \$160.00.

1 share	at \$1.00 per month,	about 4 cents a day,	to	\$160.00
2 shares	" 2.00	" " 8	" "	320.00

3 shares at \$3.00 per month, about 12 cents a day, to	\$480.00
4 " " 4.00 " " 16 " "	640.00
5 " " 5.00 " " 20 " "	800.00
10 " " 10.00 " " 40 " "	1,600.00
15 " " 15.00 " " 60 " "	2,400.00
20 " " 20.00 " " 80 " "	3,200.00

DEPOSIT BRANCH

Accounts will be opened for sums of \$5.00 and over, and subsequent deposits will be received at any time, in sums of not less than \$1.50.

On making the first deposit, the depositor shall be required to signify his assent to the Rules and Regulations of The Thrift by signing his name thereto. A fee of twenty-five cents will be charged at the time of opening an account.

No sum less than \$3.00 shall be withdrawn from the principal of any account except to close the account.

At the regular meetings of the Advisory Council in March and September of each year, or at any adjourned or special meeting in the same months, the Council shall order to be paid to depositors, on the first of April and October, such interest or dividends as the interest of The Thrift will, in its judgment, permit, on all deposits amounting to \$5.00 or over; the interest to be computed from the first day of January, April, July, and October. All money deposited on or before the tenth day of January, April, July, and October will draw interest from the first day of said months. No interest will be allowed on fractional sums of \$5.00.

All interest to which any depositor may be entitled on the first of April and October in each year shall be added to his deposits, and from thenceforth shall be deemed principal.

STAMP SYSTEM

For the purpose of extending the benefits of The Thrift, and as a further means of enabling persons to save small amounts regularly, the stamp system which has been in successful operation in Europe, as well as in this country, has been adopted. Five, ten, twenty-five, and fifty-cent stamps will be issued, and these can be purchased at any time during the month at the office of The Thrift.

Money equal to the total amount of stamps attached to a stamp card may be withdrawn upon surrender of the card at the office of The Thrift.

Stamps are to be attached to stamp cards, which will be received as payments on "Investment" or "Deposit" accounts, and the amount

transferred to the depositor's pass-book, when presented by the depositor at the office of The Thrift.

LOAN BRANCH

Sums of any amount will be loaned for the purchase of private houses, shops, and other real property in Brooklyn, but it is the special object of The Thrift to encourage the purchase of dwelling-houses by persons for their own occupation.

The amount which will be advanced will be regulated according to the valuation of the property by The Thrift officials; and of this value fifteen per cent., at least, must be provided in advance by the person wishing to obtain a loan.

The actual cost in connection with the loan — such as examination of property, searching records, guaranteeing titles, etc.—will be charged. This sum, if desired, may be added to the loan.

Loans will be repayable by monthly installments, commencing on the first day of the month following the date of the mortgage, or in any other manner that may be arranged, so that the repayments shall not extend over fourteen years.

As long as the installments are paid regularly, the loan cannot be disturbed; but with the consent of the Advisory Council the borrower may at the end of any year make additional payments on account of the advance, and thus either shorten the period during which the installments are payable, or reduce their future amount; or on like consent the mortgage may be canceled at any time by paying the present value of the future installments.

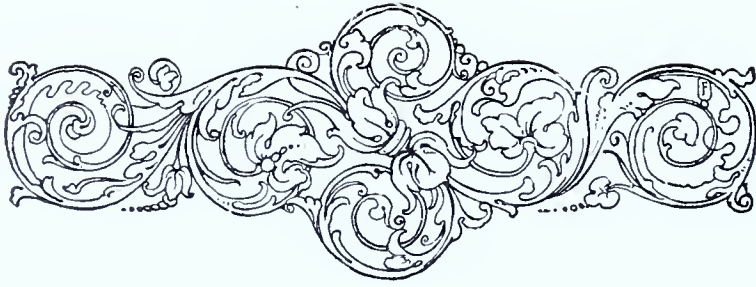
Loans are to be secured by first mortgage upon the property, together with assigned life insurance equivalent to one-half the amount of the loan.

TABLE SHOWING THE MONTHLY PAYMENTS REQUIRED, COST OF LOAN, ETC.,
FOR A LOAN OF \$1,000, FOR A PERIOD OF TEN YEARS.

	Interest on Loan.		
	5 per cent.	5½ per cent.	6 per cent.
Monthly payments	\$10.80	\$11.06	\$11.33
Total payments, 10 years	1,296.00	1,327.20	1,359.60
Amount borrowed	1,000.00	1,000.00	1,000.00
Actual cost of loan	296.00	327.20	359.60
“ “ “ “ per year	29.60	32.72	35.96
“ “ “ “ per cent.	3	3½	3⅙

As every application for an advance is considered on its merits, it is impossible to state the amount which will be loaned until the property has been inspected by The Thrift's official; but in all cases applicants will be dealt with on the most liberal terms consistent with security.

The office hours of The Thrift are, daily, except Saturday, 9 a.m. to 5 p.m.; Saturday, 9 a.m. to 12 m.; evenings, Monday and Friday, 7.30 to 9 p.m.



GENERAL



CONDITIONS OF ADMISSION.—Except in special cases, students are not admitted to any of the departments of the Institute until they have attained the age of fourteen years.

The requirements for admission vary according to the department ; but, in general, it may be said that applications are accepted when the Director of the department can satisfy himself, either by examinations or otherwise, that the applicant is fitted to take up the work he wishes to pursue.

All persons wishing to enter the Institute should make application on or before the first of each term. It is expected that application blanks be filled out and be left at the General Office previous to the beginning of the term. Each department issues a different application blank. Students applying for the blanks, in person or by mail, should mention the department or class they desire to enter. Applicants who receive notice of acceptance will present this notice, with the tuition fee, at the General Office, when they will receive a student's ticket, admitting them to the department for which application has been made. It is expected that all applicants will be present and ready for work at the hour appointed for the beginning of the term.

Attendance.—Promptness and regularity of attendance are absolutely insisted upon. Continued absence, without notification, will be considered a permanent withdrawal.

The Institute provides accommodation for the clothing of pupils, and takes due precaution for the security of such articles, but it cannot be responsible for their safety.

Tuition.—The authorities of the Institute reserve to themselves the right to increase the rates of tuition if it be found advisable, but efforts will be made to render possible the admission of all deserving applicants.

Board, Lodging, and Lunch-room.—No provision is made for lodging or regular board at the Institute, but students coming from out

of town will be referred to boarding-places in convenient parts of the city.

In the basement of the Main Building is a commodious Lunch-room where simple meals, well served, are furnished noon and evening, at moderate prices. The Lunch-room is under the special care of a competent caterer, and is in no way connected with the cooking-schools of the Institute.

Visiting days.—In order to prevent interruption to the work of the classes, it has been found necessary to limit the hours for the inspection of the buildings to Monday, Wednesday, and Friday, from 10 a.m. to 12 m., and from 3 to 5 p.m.; also during the fall and winter terms from 7.30 to 9.30 p.m. of the same days.

OFFICE HOURS.

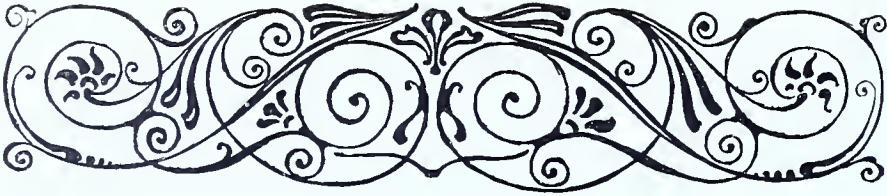
Daily, except Saturday	9 a.m. to 5 p.m.
Saturday	9 a.m. to 3 p.m.
Evenings: Monday, Wednesday, and Friday	7.30 p.m. to 9 p.m.

All necessary information may be obtained upon application in person or by letter at the office of the Institute, on Ryerson Street.

Address: F. B. PRATT,
Secretary.

REGISTRATION FOR THE YEAR 1891-92.

	Day.	Evening.	Total.
High School	144		144
Department of Industrial and Fine Arts	559	333	892
Department of Domestic Art and Science	1,388	552	1,940
Department of Science and Technology	80	232	312
Music Department	89	244	333
Department of Commerce	133	293	426
Library Classes	43		43
	<hr/> 2,436	<hr/> 1,654	<hr/> 4,090
In more than one department			149
Individuals enrolled			<hr/> 3,941
Members of The Thrift			630
Members of the Library			16,500



TUITION



THE school year is divided into three terms for day classes and two terms for evening classes.

Tuition is payable in advance, and no part of the tuition fee will be refunded to pupils who withdraw, or who are dismissed from the Institute before the close of the term for which the fee is paid.

The tuition, as given below, unless otherwise stated, is for a single term.

	HIGH SCHOOL	Day Classes.	Evening Classes.
First year, per term		\$10.00	\$ —
Second year, per term		15.00	—
Third year, per term		20.00	—

DEPARTMENT OF INDUSTRIAL AND FINE ARTS

All day.			
Life class, head and figure	\$15.00	\$	—
Classes in architectural or mechanical drawing	15.00		—
Morning.			
Life classes, head or figure, five half-days	12.00		—
All other morning classes	8.00		—
Afternoon.			
Life class, figure, five half-days	12.00		—
Life class, head, four half-days	8.00		—
All other afternoon classes	5.00		—
Evening.			
Life class, figure or head, three evenings	—		6.00
All other evening classes	—		5.00
Saturday morning class for children	2.00		—

DEPARTMENT OF DOMESTIC ART

Sewing; two lessons per week—three months.			
First, second, and third grades, each	\$5.00	\$2.00	
Children's class, one lesson per week	3.00		—
Special course, four lessons per week	15.00		—

TUITION

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	Day Classes.	Evening Classes.
Dressmaking; two lessons per week.		
First grade	\$10.00	\$5.00
Second grade (including chart)	15.00	10.00
Third and fourth grades, each	15.00	10.00
Special course, five lessons per week	30.00	—
Millinery; two lessons per week.		
First, second, and third grades, each	10.00	5.00
Special course, five lessons per week	30.00	—
Physical culture, one lesson per week	5.00	—

DEPARTMENT OF DOMESTIC SCIENCE

Unless otherwise stated, one lesson per week is given.

Normal Domestic Science course (daily)	\$30.00	\$ —
Household science.		
Home sanitation	each	5.00
Household economy		
Household art		
Hygiene and home nursing (each course)	5.00	2.00
Public hygiene	3.00	—
Cookery.		
Girls' Saturday morning class	2.00	—
Housekeepers' class, Divisions A and B, each	8.00	2.00
Housekeepers' class, Division C	10.00	4.00
Regular course, Divisions A and B, each	8.00	2.00
Regular course, Division C	10.00	4.00
Physicians' or nurses' course	5.00	3.00
Special course, three lessons each week	18.00	—
Fancy course	15.00	—
Chafing-dish course	5.00	—
Private lessons—materials extra	2.00	2.00
Laundry	3.00	1.00
Private lessons	2.00	—

DEPARTMENT OF SCIENCE AND TECHNOLOGY

		Six Months.
Machine work		\$30.00 \$20.00
Carpentry	each	30.00 15.00
Plumbing		
Painting (house)		
Painting (fresco)		
Painting (sign)		
Algebra	each	Per Term. \$ — \$3.00
Geometry		

PRATT INSTITUTE

		Day Classes.	Evening Classes.
Physics	} each	\$ —	\$8.00
Chemistry			
Electrical construction			
Steam			
Strength of materials			
Machine design		—	5.00

DEPARTMENT OF COMMERCE

Regular commercial course		\$15.00	\$ —
Phonography	} each	8.00	6.00
Typewriting			
Bookkeeping	} each	—	6.00
Arithmetic and penmanship			
English			
Spanish			

DEPARTMENT OF KINDERGARTENS

First year	} per term	\$30.00	\$ —
Second year			
Mothers' class		5.00	—
Special classes		5.00	—

DEPARTMENT OF LIBRARIES

Library training class	} each	\$5.00	\$ —
Literature class			
Cataloguing class			

MEMBERSHIPS	{ Athletic Association	\$1.00 per year.	
	{ Choral Society	1.00	"
	{ Graduate Association50	"

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